SEPTEMBER '61

MODERN TEXTILES

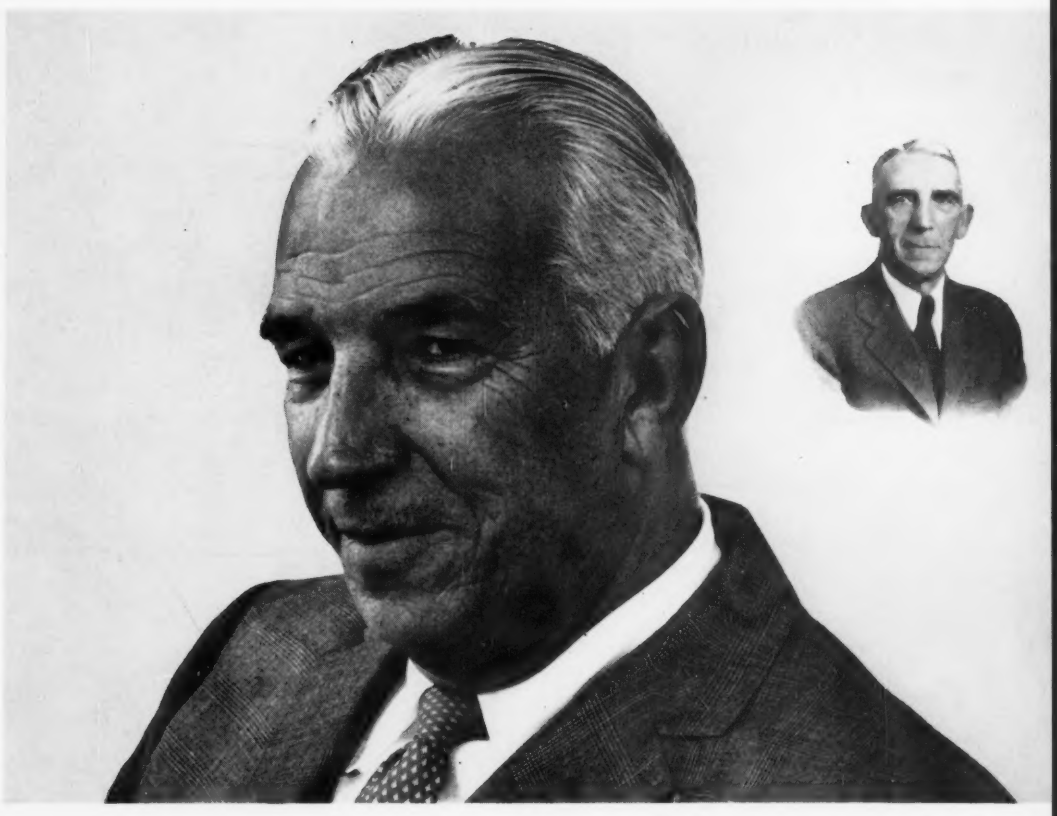
MAGAZINE

Specializing in Man-Made Fibers and Blends since 1925

FIBERS

FABRICS

FINISHES



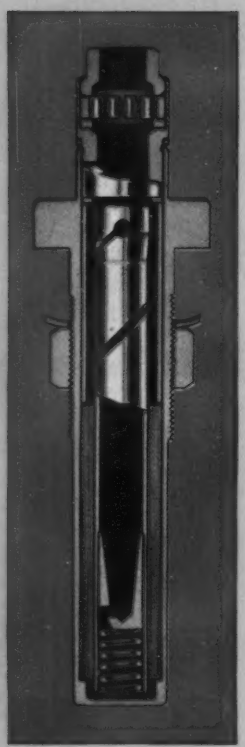
Under THOMAS D. RUSSELL Russell Mfg. Co. carries on a tradition begun by his father the late Benjamin Russell—page 21

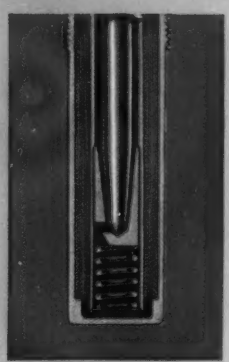
GROWTH OPPORTUNITIES IN TEXTILES

Reports on Laminates, Stretch & Bulked Yarns, Circular Knitting and Double Knits

plus

ANNUAL PULL-OUT TABLES OF DENIERS & FILAMENTS





DA42

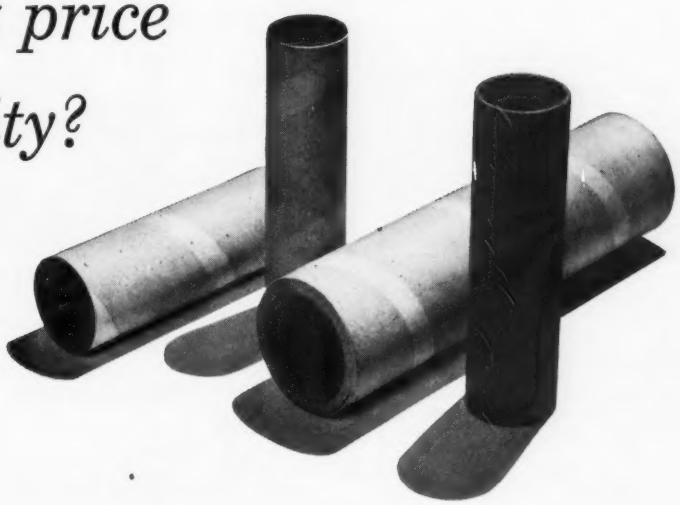
The Draper DA-4-2 Anti-friction Spindle is designed to run at higher speeds with heavier loads and lengthened oiling cycles. This spindle can be furnished to handle a full range of counts in both filling and warp yarns. The DA-4-2 Spindle features a one-piece steel base and a roller bearing bolster with coil spring dampening action. For the finest in spinning combinations, specify — Draper Bobbins, Rings and Spindles. For information, consult a Draper representative.

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N.C. • SPARTANBURG, S.C.

Sonoco Paper Tubes...

what price quality?



Dependable, uniform performance is the extra quality delivered by Sonoco with every order of textile paper tubes and this quality works to your advantage. Your real *savings* come after your initial cost because Sonoco tubes provide trouble-free foundations for perfect packages.

Sonoco produces all types of spiral, convolute and parallel tubes. Supplying customers with the *right* type of yarn carrier, at reasonable cost, is achieved through advanced processes which permit the manufacture of paper tubes with unusual properties. Qualified Sonoco sales engineers are ready to assist you with economical solutions to your particular yarn carrier problems.

Technical service of this type is an added benefit when you buy from Sonoco. *Only Sonoco,* in its field, is in a position to keep pace with the textile industry through research and product development. Sonoco's more than 60 years' experience can benefit you.

SONOCO

Products for Textiles

3094

SONOCO PRODUCTS COMPANY, HARTSVILLE, SOUTH CAROLINA • Mystic, Conn. • Akron, Ind. • Ravenna, Ohio • Lowell, Mass. • Holyoke, Mass. • Phillipsburg, N. J. Longview, Texas • Philadelphia, Pa. • La Puente, Calif. • Fremont, Calif. • Atlanta, Ga. • Richmond, Va. • **MEXICO:** Mexico, D. F. • **CANADA:** Brantford, Ont. • Granby, Quebec

MODERN
TEXTILES MAGAZINE*

September, 1961 Vol. 42, No. 9

Modern Textiles Magazine
Established 1925

* * *

Published Monthly by
Rayon Publishing Corporation
303 Fifth Ave., New York 16, N. Y.
MUrray Hill 4-0455

* * *

Francis A. Adams ..... *Chairman of the Board*
Alfred H. McCollough ..... *President*
Harvey J. Williams ..... *Vice President*
Harries A. Mumma ..... *Treasurer*
Charles J. Costabell ..... *Secretary*

* * *

Alfred H. McCollough ..... *Publisher*
Jerome Campbell ..... *Editor*
H. George Janner ..... *Managing Editor*
Robert C. Shook ..... *Marketing Editor*
Joseph Fallat ..... *Art Direction*
Harvey J. Williams ..... *Business Manager*
William A. B. Davidson ..... *Business Representative*
Gordon B. Ewing ..... *Business Representative*
R. A. Lipscomb ..... *Business Representative*
Stanley A. Ehresman ..... *Circulation Manager*
I. A. Price ..... *Asst. Circulation Manager*

* * *

Subscription Rates: North and South America and U. S. Possessions, one year $5.00; all other countries, one year, $8.00. Postage prepaid by the publisher. Single copies $1.00.

BPA

Member of
Business Publications Audit of Circulation, Inc.

Accepted as a controlled circulation publication at the Post Office, Manchester, N. H. Editorial and Circulation offices at 303 Fifth Avenue, New York 16, N. Y. Publication offices at 215 Canal Street, Manchester, N. H.

(Originally entered as second-class matter at the Post Office, New York, N. Y. August 20, 1925).

* * *

Contents copyright 1961 by Rayon Publishing Corporation. All rights reserved. Articles may be reprinted with the written permission of the publisher, if credit is given to Modern Textiles Magazine.

* Registered U.S. Pat. Office.

The Principal Trade Groups

American Association of Textile Chemists and Colorists ..... Lowell Techn. Inst., Lowell, Mass.
American Association for Textile Technology, Inc. ..... 100 W. 55th St., New York
American Cotton Manufacturers Institute, Inc. ..... 1501 Johnston Bldg., Charlotte, N. C.
American Cotton Manufacturers Institute, Inc. Man-Made Fibers and Silk Division ..... 10 East 40th St., New York
Man-Made Fiber Producers Association, Inc. ..... 350 Fifth Ave., New York
Silk and Rayon Printers and Dyers Ass'n of America, Inc. ..... 1450 Broadway, New York
Synthetic Organic Chemical Manufacturers Association ..... 41 E. 42nd St., New York
Textile Distributors Institute, Inc. ..... 469 Seventh Ave., New York

CONTENTS

PUBLISHER'S VIEWPOINT

A Federal Law to Protect Designs 19

SPECIAL FEATURES

The Russells of Alabama 21
by Jerome Campbell

Textile Colorists Review New Trends in Dyeing and Finishing 30

Gains for Polyesters—Arnel Blends 35
by Ira Jacobson

Whitin's New Automatic Doffer System 38

Growth Opportunities in Textiles 49

Laminates 50
by A. J. Callahan

Improved Foams, Expanded Output 53

New Group of Foams Offered 54

Textured Yarns 55
by W. H. Poisson

Woven Stretch Fabrics 58
by J. A. Martini

The Expanding World of Circular Knitting 62

Paper Yarn Progress 64

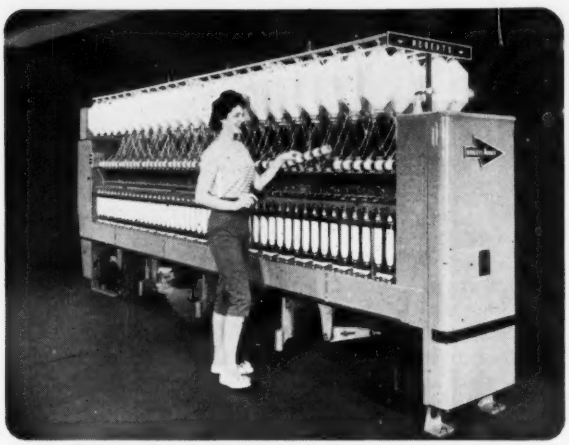
Deniers & Filaments of U.S. Manmade Fibers and Yarns 73
by H. Geo. Janner (Fold-out Section)

DEPARTMENTS

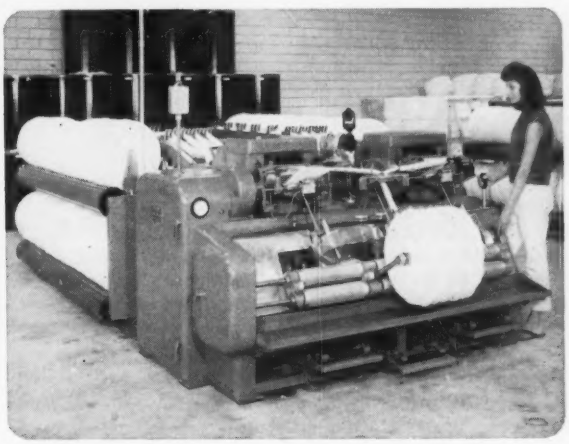
Worldwide Textile News 20
New Fabrics—New Yarns 34
TDI News and Comment 35
New Machinery 42
Textile Newsbriefs 92
Yarn Prices 97
Calendar of Coming Events 112
Index to Advertisers 112

ROBERTS

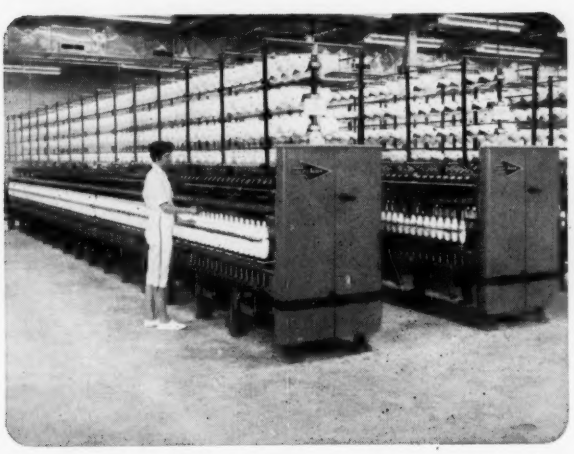
YARN MAKING MACHINERY
for Cotton, Worsted, or Long Fiber Systems



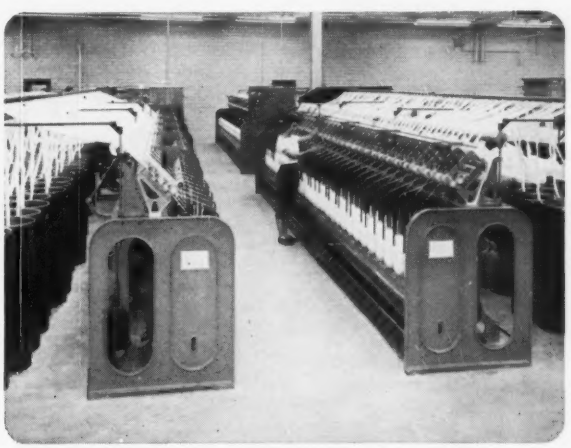
ROBERTS ARROW SPINNING for both cotton system and long fiber system yarn spinning for natural and synthetic fibers and blends. High speed, all ball bearing, big package Arrow Spinning Frames in 25-inch or 36-inch width. Exceptional flexibility and simplicity of operation in the manufacture of improved quality yarns at reduced costs and modest initial investment.



ROBERTS worsted system preparatory machines, including ParaBlenders, ParaDrafters and AutoEveners, are rugged, high performance machines for pinning, parallelizing, drafting and blending worsted and synthetic fibers prior to roving and spinning, and in top making plants. AutoEvener automatically and instantaneously corrects delivered sliver weight to within plus or minus 1%.



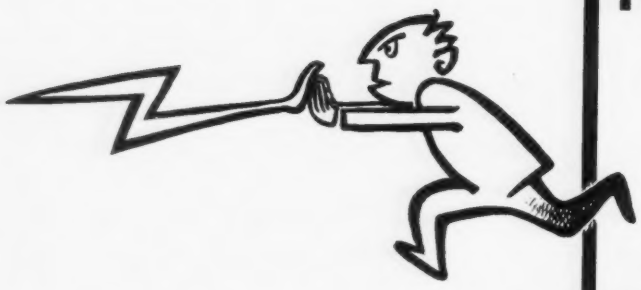
ROBERTS TWISTERS for plying yarns are completely ball bearing equipped and designed for high speed ring twisting operations. 25- or 36-inch frames. Up to 3½-inch rings and 12-inch bobbins. Package weights 1¼ pounds on cotton, ¾ to 1 pound on worsted.



ROBERTS ROVING FRAMES are ball bearing rebuilt and feature all-new heavy duty ball bearing Roberts Double Apron Drafting Systems for cotton, short staple or long fiber synthetics, worsted and blends. 10x5 and 12x7 packages. Provisions for double headed spools.

Simplicity of design, rugged construction and high speed ball bearing operation are the trade marks of all Roberts Company machinery. Roberts also supplies rebuilt spinning frames and modernization change-overs for mills' existing machinery.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA



PUSH OUT STATIC!

It's done safely, inexpensively, with the Simco "Midget" electronic static eliminator. The "Midget" is unconditionally guaranteed to do the job right. There is a size for every machine. Simco, America's largest specialist in anti-static equipment, also furnishes shockless bars (safe for hazardous areas), anti-static cleaning devices and sheet separators, sprays, and meters for measuring static. Write for facts.

the SIMCO company
920 Walnut Street, Lansdale, Pa.

World Manmade Fiber Congress

The second World Congress of Manmade Fibers will be held in Royal Albert Hall, London, on May 1-4, 1962, it was announced recently by Roystan Dunford, Courtaulds (Ala.) Inc., who is serving as secretary of the United States National Committee of the International Rayon and Synthetic Fibers Committee, the sponsor of the Congress.

With "The Impact of Man-Made Fibers" as its theme, the Congress will spotlight the many-sided role of manmade fibers in textiles. The start of the Congress will be the signal for synchronized programs in many countries, relating to manmade fibers in general, and to fashion in particular including high level social fashions, with Paris and London setting the pace. These and allied events will be held in the principal cities of the textile manufacturing countries.

Over 2,000 delegates from 50 countries representing textile industries, allied trades and inter-governmental organizations, will attend the Congress, which is by invitation only.

The scope of the Congress program covers manmade fibers in terms of applied research, development, economics and distribution. Other subjects include: The impact of manmade fibers on clothing, in the home, on public services and on other industries. The plenary sessions of the Congress will be held in the Royal Albert Hall. The working sessions and discussions will take place in the Connaught Rooms. The scientific program includes five high-level papers on high polymer research. For further information about the Congress readers may write to Dunford at Courtaulds, 600 Fifth Ave., New York 20, N. Y.

RICHARD WARSOFF

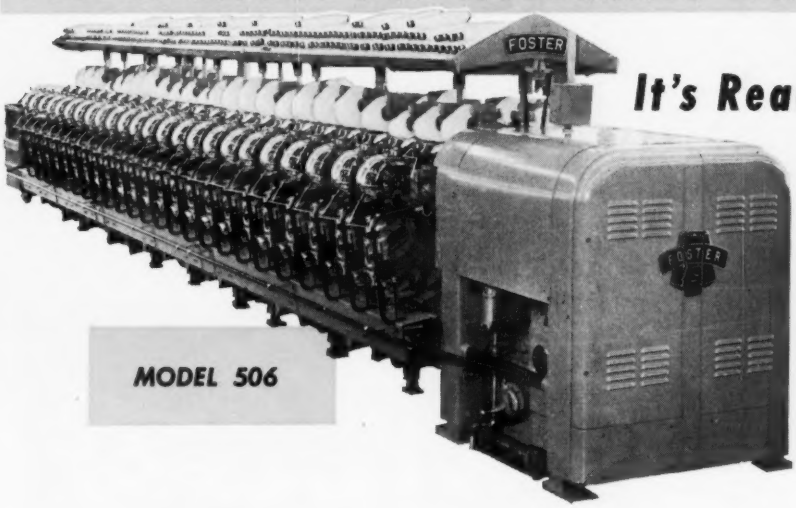
IRVING WARSOFF

America's most modern streamlined sample card and swatch service

The Two Heads of RELIABLE give your SAMPLE CARD or SWATCHING JOB their PERSONAL ATTENTION ...whether it runs into the tens or the millions

RELIABLE SAMPLE CARD CO., INC.
30 Sanford Street, Brooklyn 5, N. Y. • ULster 5-0202

FOSTER MODEL 506 AUTOMATIC WINDING MACHINE



It's Ready! It's Selling!

Additional machines will be shipped, beginning this September, to such progressive mills as A. M. Smyre Manufacturing Company, Ranlo, N. C., The Russell Manufacturing Company, Alexander City, Ala. and Swift Spinning Mills, Inc., Columbus, Ga.

Firestone Synthetic Fibers Co., Hopewell, Va., and E. I. Dupont de Nemours & Co. of Seaford, Md., have also placed orders for the Model 510, another version of the 500 series.

THE FOSTER MODEL 506 BENEFITS YOU IN 8 WAYS:

1. Increases operator productivity by 50%.*
2. Winds at twice the speed of our manual winder.
3. Requires less floor space per pound of yarn produced than our manual winder.
4. Prevents wild yarn (butterflies), tangles, bobbin rings, crossed ends, uneven package density and rough yarn.
5. Electric size stop breaks back yarn, eliminating gauging of package diameter by hand.
6. Produces any type of open wind putup, including a steep taper (9°36′) knitting cone up to 14″ in diameter.
7. The Model 506 cone is an even better package than the Model 102 cone (standard for the sales yarn market for many years).
8. Investment required is no more than for our manual winders with same capacity and similar features.

**Substantiated and documented in mill tests, under production conditions.*

AUTOMATIC FEATURES

Only those operations which will NOT endanger yarn or package quality have been automated. These include threading up, slubbing and cleaning, disposal of empty bobbins, gauging full cones, donning full bobbins and doffing empty bobbins.

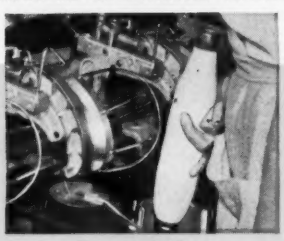
SPEEDING UP MANUAL OPERATIONS

To keep the mill investment required within practical limits and to assure top yarn and package quality (which is so vital to sales yarn spinners), donning and doffing of cones, providing the bobbin supply and knot tying are still done manually. However, providing the bobbin supply and tying knots have been so simplified that altogether they require only fractions of a minute. Wild yarn, tangles, bobbin rings, crossed ends, uneven package density and rough yarn (which are unavoidable at times with automatic knot tying) are definitely prevented.

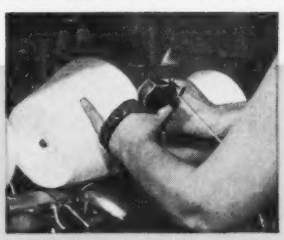
YOU CAN STILL GET EARLY DELIVERY

We will put 1,000 additional spindles of the Model 506 into production in December for delivery early next year. If you want early delivery, order NOW!

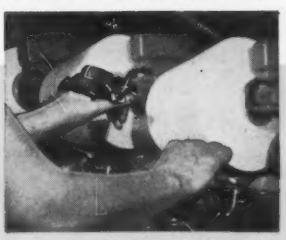
MANUAL OPERATIONS WHICH TAKE ONLY FRACTIONS OF A MINUTE AND PROTECT YARN QUALITY



Dropping bobbin in chute.



Tying knot with standard high speed knotter and testing — all with left hand.



Restarting spindle with right hand.

266-1

FOSTER MACHINE COMPANY

A YARN WINDER FOR EVERY PURPOSE

Westfield, Massachusetts, U. S. A.

Member of American Textile Machinery Association

SOUTHERN BRANCH — Route 85, Belmont, N. C. • CANADIAN REPRESENTATIVE — Ross Whitehead & Co., Ltd., 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ontario • EUROPEAN REPRESENTATIVE — Muschamp Textile Machinery (Sales) Limited, Eider Works, Wellington Road, Ashton-under-Lyne, Lancashire, England • REPRESENTATIVE IN MEXICO — Carlos Rios Pruneda, Av. Juarez No. 145 Desp. 17, Mexico 1, D. F.

HDT.1

Heavy Denier Drawtwister

meets the trade's most exacting requirements

Designed specifically for the hot stretching of the heavier denier, high tenacity, synthetic yarns.

Up to 9 lb. net weight of yarn on a 14 inch lift bobbin.

Denier range up to 2,000.

Delivery speeds up to 1,250 ft./min.

Hydraulically operated building motion.

Complete with all electrical equipment, including yarn heater plates with automatic temperature scanning.

For further information apply to:

DOBSON & BARLOW MACHINERY SALES LIMITED

A member of the Stone-Platt group

BRADLEY FOLD WORKS, BOLTON, ENGLAND

CHARLTON WOOLEN COMPANY USES

CHARLTON CITY, MASS.

HERR "M" TYPE CONICAL RINGS

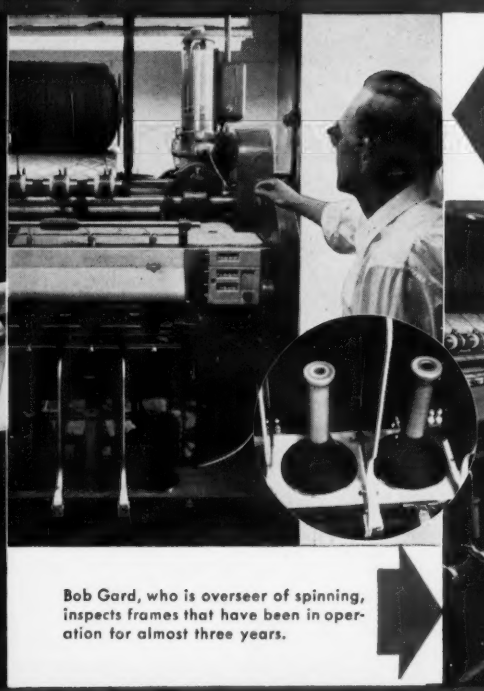
WITH AUTOMATIC PRESSURE LUBRICATION

For better Oil distribution (minimum amount)
— on the path of the traveler

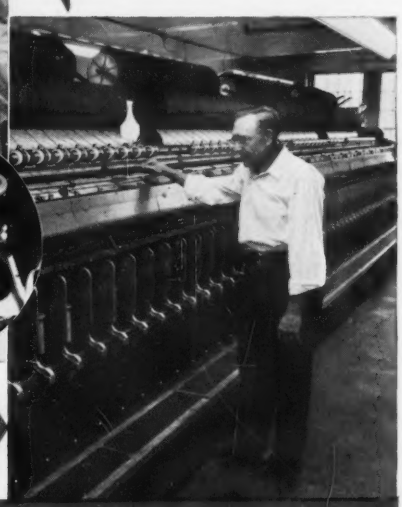
No oil scattering
— on the machine to create maintenance problems
— on the yarn to degrade quality

Benefits

LONGER LIFE OF RINGS AND TRAVELERS
HIGHER SPEED OPERATIONS
IMPROVED PRODUCT
REDUCED OPERATING COST



With Herr "M" Type Rings and Controlled Automatic Pressure Lubrication.
"YOU DON'T HAVE TO DEPEND ON THE TRAVELER TO SPREAD THE OIL" says Bob Gard.



Bob Gard, who is overseer of spinning, inspects frames that have been in operation for almost three years.

Illustrations show one of the modern installations at Charlton Woolen Company, Charlton City, Mass., manufacturer of coatings and snow suiting fabrics.

Here's how the system operates: Herr "M" type conical rings contain an oil reservoir running completely around the ring. From this reservoir, seams carry the oil by capillary action to the top and side bearing surfaces of the ring so that the paths of the traveler are continuously lubricated...but with a minimum of oil.

The reservoir is supplied with oil by an automatic pressure system that can be set to give just the right amount of oil . . . eliminating troublesome waste.

After the pump cycle has been established, no supervision is needed. Higher speeds and improved products are possible.

Write for complete information

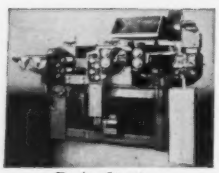
HERR MANUFACTURING CO., INC.

308 FRANKLIN STREET • BUFFALO 2, N.Y.

For Spinning and Twisting Worsted • Woolen • Rayon • Nylon • Orlon • Fiberglass and Blended Yarns of all Types

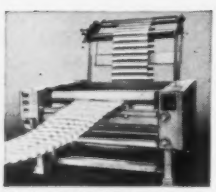
ONE TURBO DEMONSTRATION is worth a thousand words

Bring your fibers, your fabrics or your finished garments to Turbo – and see for yourself what Turbo Machines can do for you. A staff of experts will deal with your special problems.

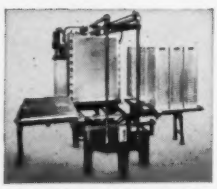


Turbo Stapler

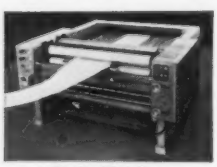
Turbo Dye Boarder



Turbo Padder-Extractor for Tubular Knits

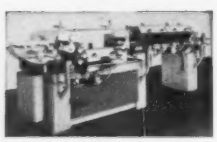


Turbo FS-300 Fiber Setter

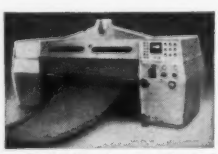


Turbo Finisher for Tubular Knits

Turbo Package Dyeing and Drying Machines



Turbo Tow Processing Machine



Turbo Electro-Finisher

For Hosiery:
- DYE BOARDER
- PRE-BOARDING MACHINES
- BOARDING MACHINES

For Tubular Knit Fabrics
- FINISHER
- PADDER EXTRACTOR

For Pile Fabrics — Woolens — Wool Blends
- ELECTRO-FINISHER
- AUTOMATIC FRAMING MACHINE
- AUTO-FESTOONER
- SHEARER

For Synthetic Fiber Processing
- STAPLER
- FIBER SETTERS
- CRIMPING MACHINES
- TOW PROCESSING MACHINES

For Sweaters
- SWEATER SETTER
- ROTARY DYEING MACHINES

For Dyeing, and Drying
- EXTRACTOR-DRYER
- PACKAGE DYEING MACHINES
- SKEIN DYEING MACHINES
- ROTARY DYEING MACHINES

For Carpets
- CROSS-SHEARER
- FIBER SETTERS

TURBO

In writing for literature please mention the machines in which you are interested

TURBO MACHINE COMPANY, LANSDALE, PA., U. S. A.

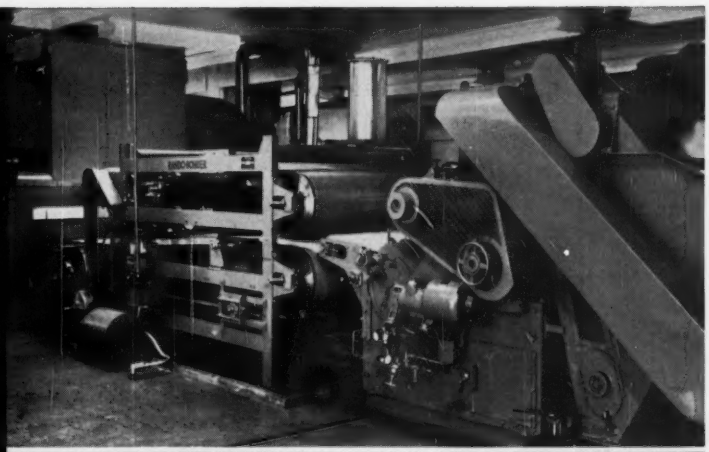
Telephone: ULysses 5-5131

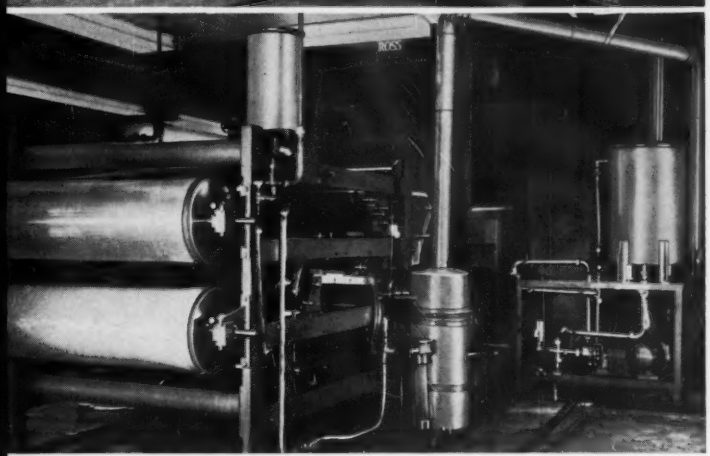
FIBER TO FABRIC

FIBER TO FABRIC IN ONE CONTINUOUS PROCESS

•

the RANDO-WEB® PROCESS





40" RANDO-WEB process line with RANDO-FEEDER, Model B RANDO-WEBBER, RANDO-BONDER, Variable Speed Vacuum Extraction System and Compact Chemical Feed System (stainless steel).

Installation photographs courtesy of Celanese Corporation.

The RANDO-FEEDER® and RANDO-WEBBER® produce uniform random oriented web structures with even selvages from a wide variety of textile and non-textile fibrous materials. In continuous production the web flows from the RANDO-WEBBER into the RANDO-BONDER®. This machine provides the means of applying a wide range of chemical binders to web structures without distortion of fiber lay. Screens are adjustable for major changes in web thickness. Chemical pickup is controlled by means of Variable Speed Vacuum Extraction System.

The Chemical Feed System, operating in conjunction with the RANDO-BONDER, feeds binder fluids at constant rate, recycling the returned fluid continuously to maintain constant, uniform chemical concentration. System is made of stainless steel. From fiber to fabric takes only minutes with the RANDO-WEB process... the preferred method for quality nonwoven fabric manufacture.

TEXTILE DIVISION
CURLATOR®
CORPORATION
EAST ROCHESTER, NEW YORK

For design and engineering of complete plant consult Curlator.

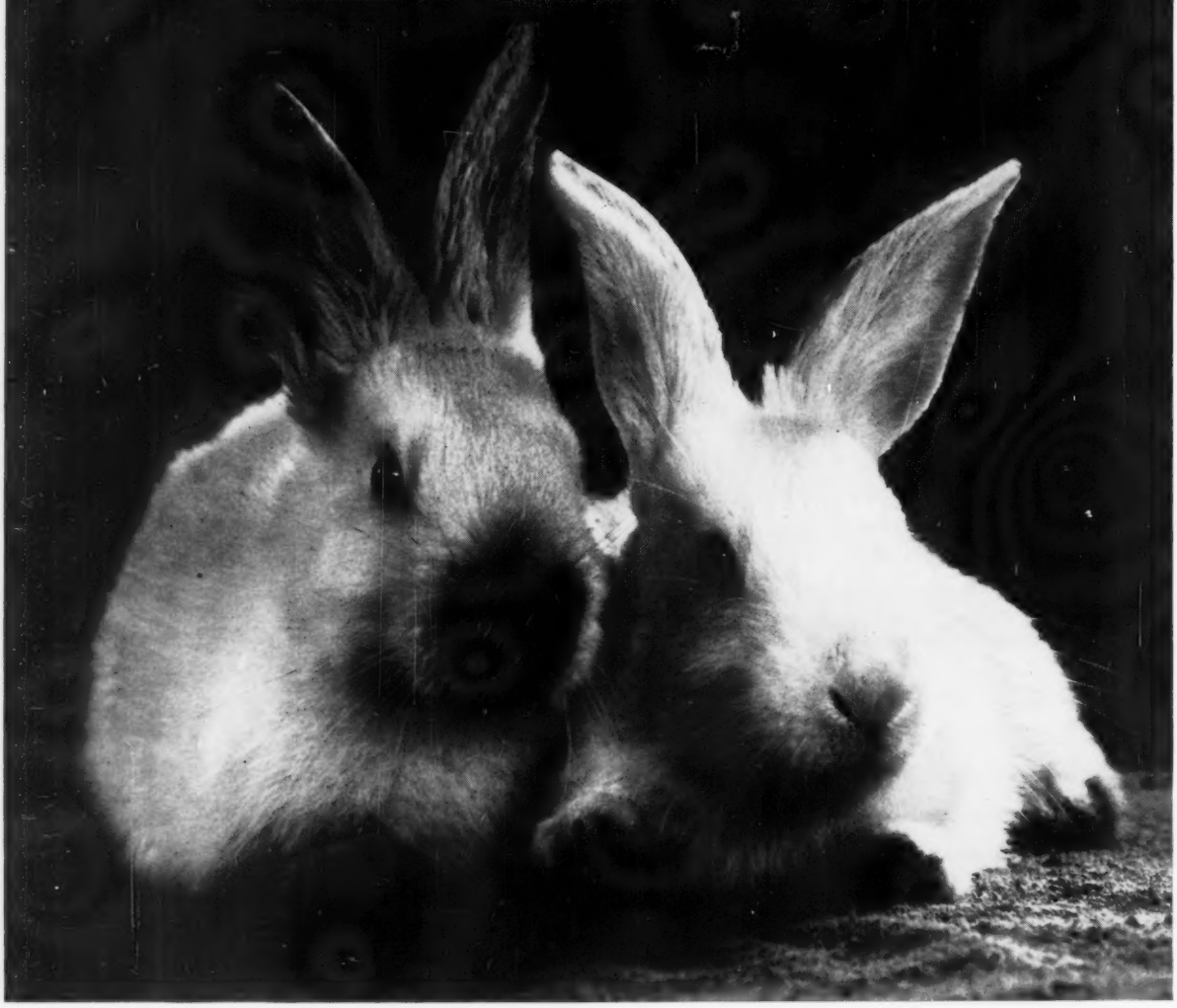
SOUTHERN STATES:
Carolina Machinery Company
Subsidiary, P. O. Box 1922, Charlotte 1, N. C.

EXPORT:
Lendt & Company
535 Fifth Avenue, New York 17, N. Y.

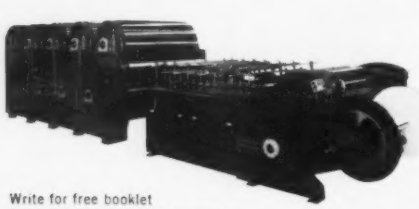
A Member of
American Textile Machinery Association

About West Point Slashers,

Production Specialists agree...



When it comes to slashing more warp, the West Point Pacesetter is the industry leader. Sales prove the story... more than 300 West Point slashers have been sold in the last five years. Go to West Point for slashers! West Point Foundry & Machine Company, West Point, Ga.



Write for free booklet
on West Point's Pacesetter Slasher

The world of Fiber Setting is at your fingertips

Every day, more and more synthetics require heat setting. Turn to Turbo, and let automation solve your problems. On Turbo Automatic Fiber Setters, push-button controls guide the entire setting operation.

Alternating cycles of steam and vacuum eliminate air and moisture pockets to provide fast, thorough penetration even at the center of material being processed. Cycling can be provided to allow any combination of pressure and vacuum.

Turbo Fiber Setters, with capacities from 60 to 1000 lbs., are available with a variety of carriers: Tray-type for sweaters; cans for tow or sliver; baskets for carpet yarns, and skeins; bobbin carriers for cones or spools.

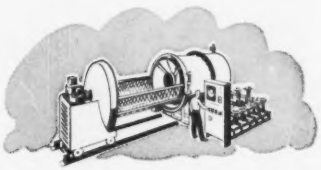
See them in operation at Lansdale . . . push the buttons yourself! Call ULysses 5-5131, or write today for an appointment.

TURBO

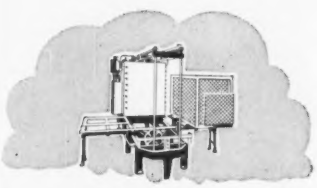
TURBO MACHINE COMPANY, LANSDALE, PA.

NEW

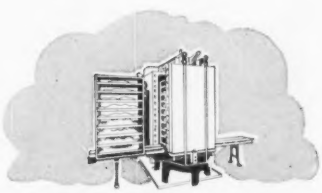
Now it is possible to set fibers at negative pressures. Accurate fiber setting at temperatures below atmospheric can be achieved as a result of new processing techniques developed by Turbo research engineers. Newest units in field operating successfully.



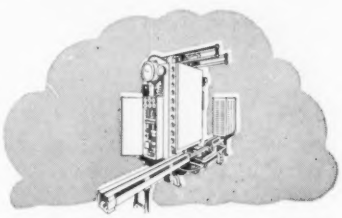
Turbo's FS-1000 for carpet yarns processes up to 2000 lbs. per hour. Keeps relative humidity up, temperature under the boil. Better shrinkage control than with earlier water-setting techniques.



The Turbo FS-300, with basket carriers, sets yarns at 300 lbs. per cycle. Eliminates dry heat problem by keeping humidity up, temperature down.



The Turbo FS-96 processes 9 dozen sweaters per hour, or 200 lbs. of fiber per hour based on 20 lbs. per can.



The Turbo FS-60 sets up to 120 lbs. of synthetic fibers per hour.

you add
quality to
laminated knits
with **TURBO-ORLON***

Outstanding bondability . . .
hand . . . drape . . . crease resistance
. . . lightweight garments with
excellent thermal insulation

Orlon processed by the Turbo-Stapler provides the properties you want for laminated knits. Its uniform fiber distribution and improved spinnability makes a 80/20 ORLON/WOOL blend with excellent cover and fabric breathability.

Turbo-Orlon is supplied in high bulk form especially for laminated fabrics. *Let your licensed Turbo spinner show you how Turbo-Orlon can add quality to your laminates.*

*Du Pont Reg. Trademark

TURBO-ORLON

LOHRKE / TURBO

3 PENN CENTER PLAZA • PHILADELPHIA 2, PENNSYLVANIA

101 WAYS TO SERVE YOU...

... with superior chemicals for finer textile processing

DEFOAMER #58

Emulsion type silicone based defoamer. Disperses readily. Economical to use.

DYSET #91

Liquid, resinous dyesetter for direct colors. Prevents bleeding in hot water as well as on hot, wet pressing.

FLAMEPROOF #370

Liquid flameproofer imparting a soft hand. Does not crystallize. For cottons, rayons and blends.

OIL #40

A low cost dyeing assistant, penetrant and lubricant. Used on nylon or acetate tricot in Burlington machine or beck, also on synthetic flannels as well as laces for better dyeings.

RETARDAPEX #911

Durable gas fading inhibitor for acetate and Arnel. Used directly in the dye bath. Assists in level dyeings and will not create any spotting or scumming.

WATERPROOFON #221-KN

Highly efficient, low cost water repellent. Stable on storage. Gives 100 spray rating.

APEX OFFERS A COMPLETE RANGE OF PRODUCTS:–

Acids for Wool
Antistatic Treatments
Backing Finishes
Body Builders
Crease Resistant Finishes
Curing Catalysts
Defoamers
Delusterants
Detergents
Dye Dispersants
Dye Fixatives
Dye Retarders
Dye Levelers
Dye Penetrants
Emulsifiers
Finishes
Flameproofers
Gas Fading Inhibitors
Hygroscopic Agents
Kier Boil Assistants
Lubricants
Mordants
Mothproofers
Non-Slip Finishes
Paint and Tar Removers
Penetrants
Printing Gums
Resins and Resin Emulsions
Scours
Scroops
Shrinkage Controllers
Sizes
Softeners
Sours
Spinning Oils
Thickeners
Water Repellents
Waxes
Weighters
Wetting Agents
Wool Finishes

APEX CHEMICAL CO., Inc.

Manufacturers of Chemicals Since 1900

200 South First St., Elizabethport 1, N. J.

Telephone: ELizabeth 4-5420

How Riordon helps textiles from the ground up

RIORDON SALES is backed by 3 research laboratories in the United States and Canada. These laboratories start with seedlings to produce new and improved pulps for the textile industry.

Skilled scientists and technicians work year round to assure textile mills of improved, more *uniform pulps*. Pulps for better yarns. Yarns that are stronger. That dye better. That can be produced faster, more economically.

These laboratories and research facilities exist to serve you. To assure you *uniform* pulps *every time*. Such great pulps as: Acetacell, Novocell, Tenacell, and Tyrecell.

Riordon has a proud history of working with the most progressive companies in the textile industry. Let Riordon be of service to you.

RIORDON
SALES CORPORATION LIMITED
220 East 42 Street, New York 17, N.Y.
Sun Life Building, Montreal, Quebec, Canada

WHITIN HAS A WAY WITH TWISTERS

...in Novelty Yarns

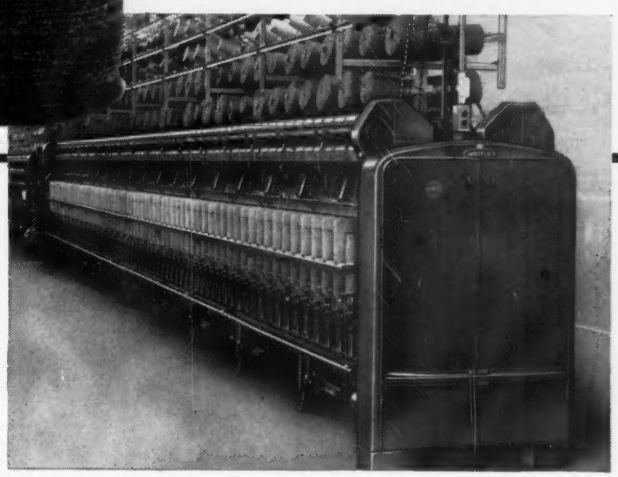
KING SIZED packages mean KING SIZED savings!

King-sized packages made on a Whitin Pacemaker Twister carry up to four times as much Novelty Yarn as those on an average twister.

These giant packages — the result of combining the productive capacity of the Pacemaker Model P Twister with the flexibility of the Type C1 Novelty Yarn Attachment, make possible king–sized savings, too — savings such as: a major reduction in knots; sizeable reductions in doffing and maintenance time; and greater production per square foot of floor space.

The Pacemaker Model P is a competitive, high speed, skillfully-built Twister capable of producing, with little or no loss in operating speed, bobbins of 11" traverse and up to 5" in diameter, using 5½" diameter rings.

The famous Whitin Type C1 Novelty Yarn Attachment already has an established reputation for excellent performance based on its precision, its simplicity and its versatility.



FEATURES:

- Fewer knots
- Reduces doffing time
- Reduces maintenance time
- Greater production per square foot of floor space
- High-speed operation
- Duplex Splash Yarn and Rocker Motions — optional

In bringing together this unusual cost-cutting combination, Whitin effectively meets today's increasing need for large knotless packages in the heavy fabric field — for products such as domestic upholsteries, automobile fabrics, rug yarns and draperies.

See your nearest Whitin representative for details.

WHITIN MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. GREENSBORO, N. C. ATLANTA, GA. SPARTANBURG, S. C. DEXTER, ME.

The best way to better yarns

He's using a tougher yarn . . . why aren't you?

It takes a tough yarn to stand up in a racing car tire . . . and tough is the word for high-tenacity Golden Caprolan® nylon by Allied Chemical. But Golden Caprolan is more than just tough. It is a remarkably versatile yarn that offers a unique combination of superior performance qualities. Unsurpassed resistance to abrasion, excellent rubber adhesion, greater resistance to flex-fatigue, excellent troughing qualities, to name a few.

Golden Caprolan established a new criterion for heat stability in nylon tire cord and a new standard of strength for marine cordage. Golden Caprolan is also performing superbly in conveyor belts, industrial webbings, tarpaulin fabrics and many other applications where heavy-duty performance is essential. If you have a tough job, we have the tough yarn for it. Our technical service staffs are always ready to help you.

Allied Chemical

GOLDEN *caprolan*
NYLON FOR THE 60's

Fiber Marketing Dept., 261 Madison Ave., New York 16, N. Y.

MODERN TEXTILES
Magazine

Publisher's Viewpoint

A Federal Law to Protect Designs

AT LONG LAST it appears that real progress beneficial to the textile industry is being made toward the achievement of adequate protection of both fabric and apparel designs. Currently before the United States Senate is a carefully written bill, S.1884, which would afford protection against unauthorized copying of "useful articles with ornamental designs." The protection provided by the bill would extend to textile fabrics, apparel, as well as furniture and other manufactured products made with original designs.

S.1884 would establish a five year period of protection along with an optional additional five year period for designs consisting of those original elements of a useful article intended to give an ornamental appearance. The protection provided to textile firms with original designs, as well as firms in other industries in a similar situation, would be in addition to the protection afforded by existing copyright law.

A Law Is Needed

It has been well established, in many cases from painful experience, in recent years that the protection of textile designs afforded by the existing copyright law, for all practical purposes is weak and ineffectual. Although many textile firms copyright their designs, and the federal courts have tended to uphold their copyrights in lawsuits, nevertheless copyrighting has not proven itself to be a speedy effective protection against the "pirating" of valuable original designs both in fabrics and finished apparel.

Consequently, many respected persons, active in the textile design and printing business, as well as a number of spokesmen for the fashion industries, came out strongly last month in a hearing in Washington before the Senate judiciary subcommittee on patents, trademarks and copyrights in favor of the enactment of S.1884.

The Senate bill, which has the vigorous support of Senator Philip A. Hart (D. Mich.), would provide for anyone whose designs are illegally copied both injunctive relief and money damages. A bill with similar provisions, HR.6776, has been introduced in the House of Representatives by Rep. Gerald Ford (R. Mich.) who has advised the Senate subcommittee that he would work for passage of the legislation embodied in the two bills.

Industry Support Urged

In the past many hard-working, ethical firms among mills, converters and textile printers have suffered serious losses as the result of the unscrupulous copying of their original designs. The legal protection and remedies against unauthorized design copying provided by S.1884 have long been sought. It is worth noting incidentally that the proposed law has the active support of the National Committee for Effective Design Legislation as well as the Textile Distributors Institute, and that the bill has been carefully drawn by a group of informed persons under the chairmanship of Judge Giles Rich of the U.S. Court of Customs and Patent Appeals.

It would seem therefore to be in the best interests of the textile industry that this proposed legislation, so long urgently needed, should be enacted into law. It would be helpful, we believe, if trade associations and other industry groups as well as individuals and firms in the industry, who stand to benefit by the enactment of effective legislation to protect designs, made known to their representatives in Congress their support of S.1884.

A. H. McCullough

TEXTILE NEWS

World Wide

NEW GERMAN FIRM has been formed to make and sell glass fiber fabrics in the European Common Market. Known as Interglas Textil, the new outfit has been set up by agreements between Burlington Industries of U.S., acting through its subsidiary Burlington International, and Steiger & Deschler, West German textile manufacturer. Headquarters and plant will be in Ulm where Steiger & Deschler already has a plant equipped for weaving glass yarn fabrics.

JAPANESE FIRM GETS license from Saco-Lowell Shops, Easley, S. C. to build and sell in Japan certain Saco-Lowell textile equipment. Toyoda Automatic Loom Works has received approval from the Japanese Government for this technical tie-up with the American machinery firm. Among machines to be made under the arrangement will be drawing frames.

NYLON 6 TIRE CORD production will be speeded in Japan under a new arrangement which Nippon Rayon Co., has made with Von Kohorn International Corp. of U.S. The American firm will furnish machinery and technology based on its recently announced developments in machine design and processes.

DYEING PLANT IN MEXICO has been set up by Interchemical de Mexico, S. A., a subsidiary of Interchemical Corp. of New York. The new plant, located in the Mexico City suburb of San Pedro Xalostoc, has 40,000 square feet of working space. Equipped with modern machinery, it will be staffed with Mexican personnel for the production of textile colors, printing inks and industrial finishes.

JAPANESE HIGH SPEED LOOM said to weave at more than 1,000 picks a minute will be built by Toyo Cotton Spinning Co. The shuttle motion is circular, without stopping at the end of the shed as in conventional looms. It is expected that the new loom will be suitable for cotton and synthetic fabrics.

INDIAN NYLON PLANT, the first in that country, will be built in Kotah in the State of Rajasthan by J. K. Synthetics, a new venture of the J. K. group of industries. With the aid of Swiss technicians the plant will be equipped to turn out 600 kilograms of nylon yarn daily.

OLEFIN FIBERS for textile will be produced in Japan if an expected recommendation of the Japanese Chemical Fibers Association is accepted by the Government. The association recently approved plans of five individual member firms to turn out polypropylene fiber. They are Toyo Spinning Co., Shin Nippon Chisso Hiryo, Toyobo, Mitsubishi Rayon Co., and Asahi Chemical Co. Toyo, Toyobo and Mitsubishi will use technical know-how acquired from Montecatini of Italy. Asahi and Shin Nippon will obtain technical assistance from AviSun Corp. of U.S.

LAMINATE GARMENTS will reach Japanese consumers this fall. A dozen or so Japanese firms are expected to move into the production of foam-laminate outerwear starting with car coats and other informal leisure wear.

MEXICAN CAPROLACTAM will be made in a new plant to be set up by three producers of nylon filament in that country. They are Celanese Mexicana, Nylon de Mexico, and Celulosa y Derivatives, all of whom require caprolactam for their nylon manufacture.

NORTHERN IRELAND will get a new plant for the manufacture of isocyanates, a material used in the production of urethane foam. The plant will be built by the British subsidiary of the Du Pont Co. of U.S. Its site will be at Maytown near Londonderry.

DUTCH GLASS FIBER PLANT, jointly owned by Pittsburgh Plate Glass International and A.K.U., of Arnhem, Holland, is now under construction on a 27 acre site at Hoogezand in the Netherlands. Completion is expected late in 1962. Output will be marketed in 18 European countries.

YUGOSLAVIANS WILL SEE American man-made fiber fabrics in apparel and other end uses. Amcel Co., export affiliate of Celanese, has been selected by U.S. Commerce Dept. to stage a huge exhibit of fabrics at the International Trade Fair in Zagreb this month. The Exhibit will be part of the American Pavilion.

PLANS ARE SHAPING up for the eighth Canadian Textile Seminar to be held Sept. 5-7, 1962, Queens University, Kingston, Ont. The Seminar is organized by the Textile Technical Federation of Canada.

LONGER CREDIT PERIOD for foreign customers of Japanese textile products and other merchandise has been made available. Last month the Government extended to 150 days from 90 days the period in which buyers abroad have to honor letters of credit.

The Russells of Alabama

Spankingly modern, big, diversified and successful, Russell Manufacturing Company is ably managed by the sons and daughter of one of the South's great textile pioneers, Benjamin Russell of Alexander City

By Jerome Campbell
EDITOR, MODERN TEXTILES MAGAZINE

FEW TEXTILE FIRMS in the South so aptly and completely exemplify the rise of the New South of business acumen, tireless energy and high integrity than The Russell Manufacturing Company. With all its plants in the little town of Alexander City, Alabama, midway between Birmingham, Ala. and Columbus, Ga., Russell is an enterprise whose modernity of equipment, variety of products and skill in making them is the admiration and frank envy of textile management people everywhere.

In its six plants in Alexander City Russell houses some 70,000 spindles, 1,200 looms, 300 knitting machines, 850 sewing machines, and an impressive accumulation of finishing machinery, all served by a devoted work force of some 3,700 men and women most of whom live in their own homes, and small farms within a radius of 20 miles.

Russell's manufacturing is divided among weaving, knitting and the fabrication of a varied range of knitted garments. These three activities provided a sales volume in 1960 of $29 million, making Russell an impressively major outfit on the textile scene.

Thomas D. Russell

Russell's products are men's underwear, athletic uniforms, children's knitted garments and a range of colored yarn fabrics of which Russell's seersuckers, generally conceded to be the finest in the industry, are the most important.

Russell has the distinction too, of being one of the largest manufacturers of T shirts and athletic shirts, and the largest maker of sweat shirts and full length underwear. Its athletic uniform division is the largest manufacturer of athletic wearing apparel in the United States.

The division, utilizing mostly knitted fabrics produced by Russell machines, cuts and sews football jerseys, and pants, basketball, baseball, softball and track uniforms. Through distributors, and through its own mail order catalog, the athletic division, operated under the name of Russell-Southern Company, supplies athletic wearing apparel to a large number of colleges, high schools, YMCA's, industrial and community recreation groups.

The head of this diversified textile manufacturing operation is Thomas Dameron Russell, 57 years old, a man whose classic profile and white wavy hair gives him the distinguished good looks of an actor or the popular conception of a senator from the Old South. In his devotion to the company he heads and his capacity for hard work in managing Russell Manufacturing Company, Tom Russell is very much the archetype of the new kind of industrial statesmen who have lead the New South to prosperity through growing industrialization. In shaping the policies of the company, he shares responsibilities with his brother, Robert and his sister Elizabeth, both of

J. W. Richardson,
VICE PRESIDENT IN CHARGE OF CLOTH DIVISION

whom are vice presidents, and members, with Tom Russell, of the board of directors.

The impressive success and prosperity of Russell Manufacturing Company, is built upon the lifelong work of a great man, one of the creators of modern Alabama, a state where industry and agriculture are being brought into a fortunate balance. The man was Benjamin Russell, the father of Thomas, Robert and Elizabeth. It is a point of significance that the man who was to become one of the creators of the New South was born in 1876 the year of the election of President Rutherford B. Hayes, in whose administration the rigors of reconstruction days gave way to a more temperate recognition on the part of the Federal Government of the need for the South to govern itself.

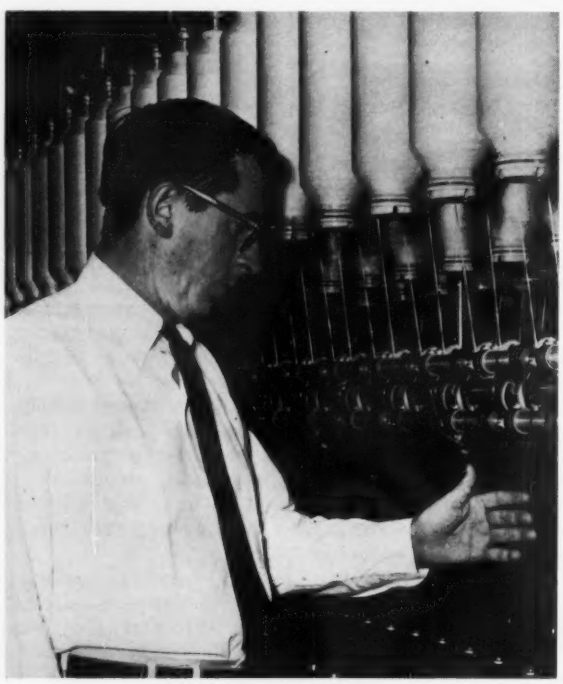
Benjamin Russell grew up in Alexander City where his father operated a general store. After he had taken a law degree at the University of Virginia, Russell set himself up as a lawyer in Birmingham. He found that most of his time was spent sitting in his office waiting for clients, an occupation unbearably tedious for a young man filled with energy and a uncontrollable impulse to go out and hustle for a living. He returned to Alexander City to take over the store of his father who had suffered a stroke. In 1900, in partnership with his brother and sister, he sold the store and opened a small bank. But, the bank, although it prospered, was not enough to keep him busy and he conceived the idea of going into manufacturing. Hearing that a small knitting mill in Georgia was for sale, he organized a corporation with the help of local citizens, bought the mill's machinery and had it set up in Alexander City.

The new mill, in a wooden building 50 by 100 feet, had six knitting machines and ten sewing machines. During its first year the mill lost money, as is so often true of new ventures started by ambitious but inexperienced young men. The fact that he had persuaded his friends and neighbors to invest in it troubled Russell. He felt an obligation to safeguard their investment of their hard-earned savings. Having started in the meantime a small telephone company which he was able to sell at a profit, he took the money he had gained and bought out the other shareholders in the mill, paying them a four percent dividend on their stock. Thus virtually all the stock of the new tiny and floundering Russell Manufacturing Company came to be held by the Russell family where it has remained to this day.

Having put all his eggs in the frail basket of his knitting venture, Russell worked hard to improve its business. Within a few years, he succeeded. In those early days, the major product of the Russell mill was ladies' knitted undershirts. These were made of cotton knitted in the mill and cut and sewn into garments in the mill's sewing room. To insert the tape string that went around the neck openings of the commodious coveralls, hand work was needed. This was done by local women in their homes on a piece work basis. Each morning a wagon drawn by a mule went around the town dropping off bundles of ladies' unmentionables to have tapes inserted. In the evening the wagon made its rounds again to collect the finished work.

From these beginnings, Benjamin Russell built steadily over the years shaping the company he headed into the form it has today. Behind all his patient, tireless work, his planning and his uncommon managerial acumen was one basic idea: how to bring increased prosperity to the people of Alexander City and his beloved state of Alabama. From knitting yarns bought elsewhere, the Russell Company moved into the spinning of its own yarns, using as much as possible, in keeping with Russell's idea of helping his own state, cotton grown in Alabama. New mills were built, the sale of knitted cloth and knitting sales yarns expanded. In 1926, the company entered the field of weaving for the first time in a new mill

(Continued on Page 28)



Eugene Gwaltney,
VICE PRESIDENT AND GENERAL SUPERINTENDENT

Carbanthrene® Scarlet RBB paste

American Designer Series

Hannah Troy

. . . designed this two-piece dress in rayon crepe, calls the shade Shrimp. It's typical of currently popular pinks that get their good start with Carbanthrene Scarlet RBB Paste.

Vat Red... with a bright new flair for fashion!

New from National Aniline! And timed to provide a bright, clear base for the cycle of pink shades that are currently coming into vogue.

Carbanthrene Scarlet RBB Paste is one of our controlled fine-particle vat dyes recommended for all types of dyeing, but especially for the clean results achieved in all pigment impregnation methods. It is practically unaffected by metals in the dyebath.

This new vat dye combines good resistance to light with very good-to-excellent wet fastness and is particularly suitable for crease-resistant dress goods and suitings.

Write for samples and Bulletin No. 449

NATIONAL ANILINE DIVISION
40 RECTOR STREET, NEW YORK 6, N. Y.
Atlanta Boston Charlotte Chicago Dallas Greensboro
Los Angeles Philadelphia Portland, Ore. Providence San Francisco
In Canada: ALLIED CHEMICAL CANADA, LTD.,
1450 City Councillors St., Montreal 2 100 North Queen St., Toronto 18
Distributors throughout the world. For information:
ALLIED CHEMICAL INTERNATIONAL • 40 Rector St., New York 6, N. Y.

Allied Chemical

23-1-37

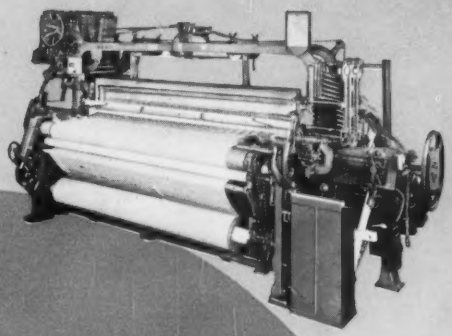
Is S-T-R-E-T-C-H your problem?

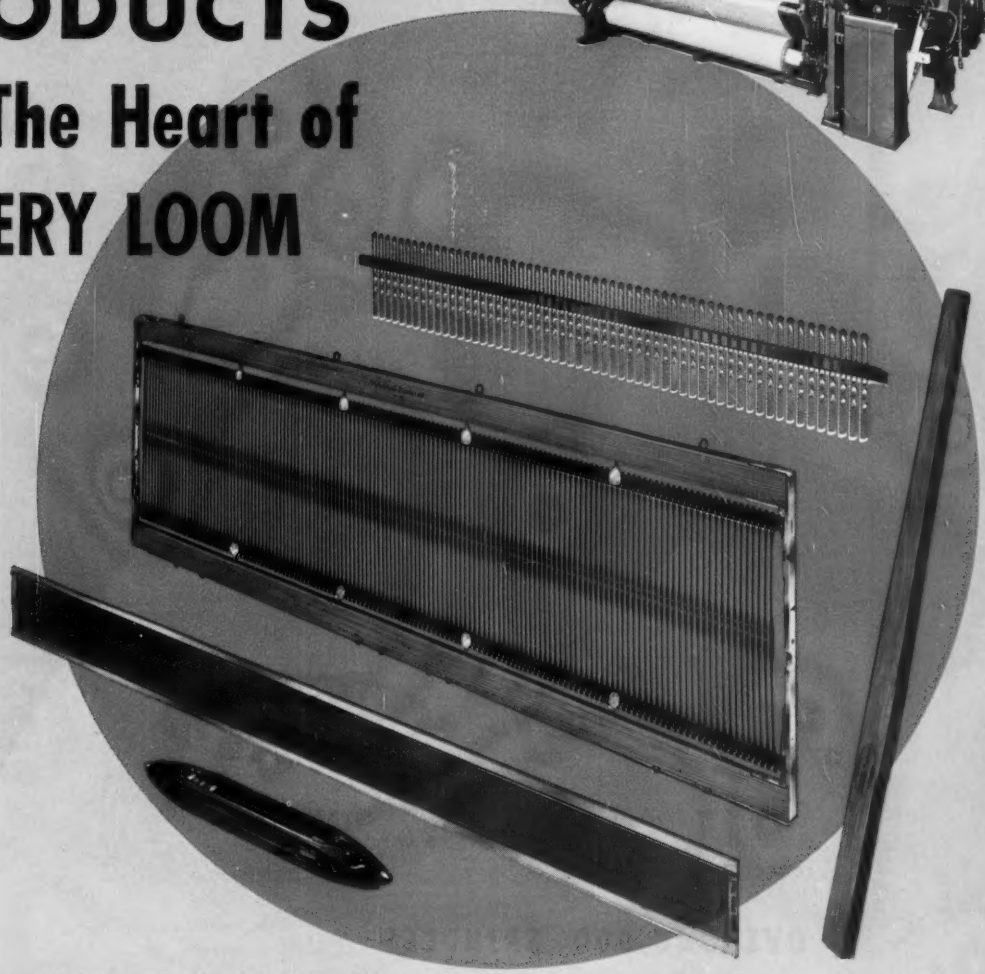
▪ Put more than seven years' experience in fabric design and construction at your fingertips by talking with Leesona. ▪ This experience started when Leesona introduced the original single process stretch yarn machines in 1954. It has grown through the years, thanks to extensive research and development in proper yarn processing conditions, fabric construction and methods of weaving and finishing fabrics. ▪ Today, America's leading throwsters are keeping pace with this dynamic market development by producing stretch yarns of superior quality on the Leesona #553 stretch yarn machine. ▪ Leesona's Technical Service Department is ready to assist America's producers in weaving better, higher quality stretch fabrics more economically. You are invited to contact them. ▪ Leesona Corporation, P.O. Box 6088, Providence 4, Rhode Island.

LEESONA

Leesona Leads to Better Fabrics

Stehedco PRODUCTS Are The Heart of EVERY LOOM





Stehedco products are designed and manufactured to weave better quality fabrics with greater economy.

The drop wires and electrodes supplied by Stehedco meet your most rigid requirements, in any type, size and style.

Whether you use Stehedco Drawtex or conventional type harness, you get the finest quality and the latest developments for improving your production and economy.

The Southern Shuttles Division of Stehedco has earned the world's leadership in the manufacture of every type of shuttle. Many new types have been introduced by Southern Shuttles to give you longer trouble-free performance.

Stehedco picker sticks are designed to give you unequaled service and need fewer replacements, with a complete line to meet every requirement.

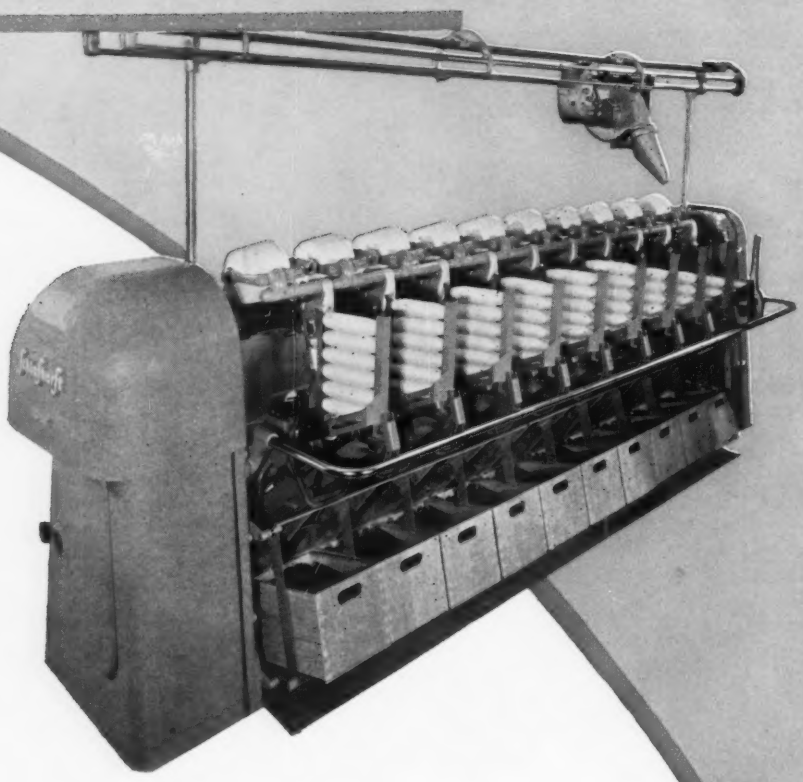
Stehedco reeds are recognized as the finest in the world, and whether you use all metal or pitch band, stainless steel or regular, you can be very sure that they are made with the utmost precision and quality to give you the longest trouble-free service.

Ask one of our qualified field engineers to show how you can profit more with Stehedco products.

Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S.C.
Southern

Other Plants and Offices: Granby, Quebec, Canada • Lawrence, Mass. • Greensboro, N.C. • Atlanta, Ga. • Textile Supply Co., Dallas, Texas • Albert R. Breen, Chicago, Ill.

K-5825



Schlafhorst AUTOCONER

The tremendous potential of this new, high speed, automatic and fully versatile cone and cheese winder is being reflected in this record:

OVER 40,000 SPINDLES

have been sold to textile plants in Europe, the United States and Canada. Why?

Lower winding cost

Larger and better packages

Full flexibility

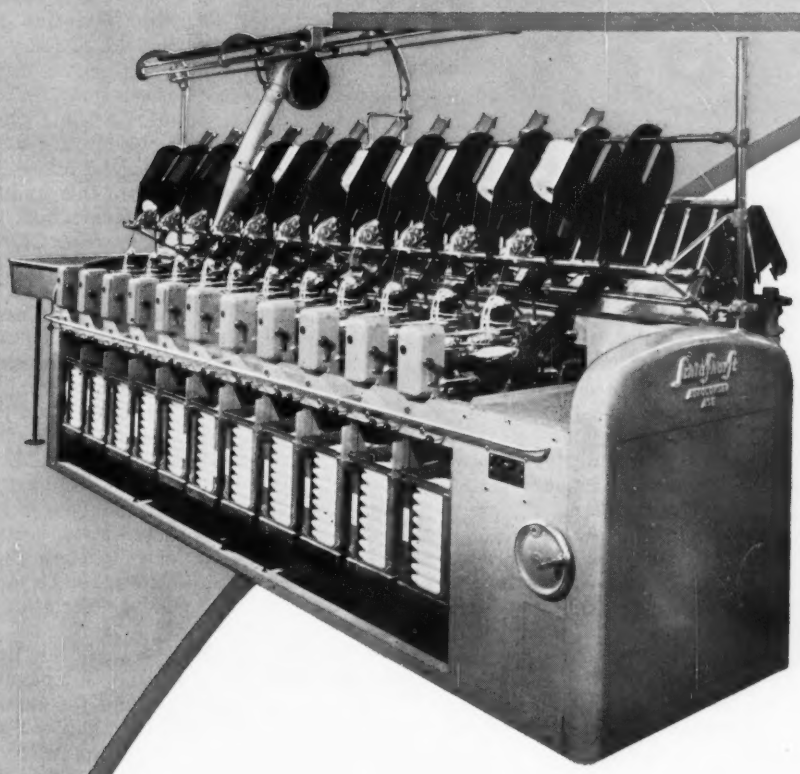
High machine efficiency

Simplified operation

Sold and Serviced by

THE TERRELL MACHINE CO., INC.

P. O. BOX 928, CHARLOTTE, NORTH CAROLINA



Schlafhorst AUTOCOPSER

INSTALLATIONS FIRST HALF 1961

completed, under erection or on order:

Aileen Mills
Avondale Mills
Bibb Mfg. Company
Cone Mills, Eno Plant
Cone Mills, Minneola Plant
Cone Mills, Pineville Plant
Cone Mills, Revolution Plant
Cone Mills, Tabardrey Plant
Deering Millikin Co., Inc.
Dominion Textiles, Ltd.
Eagle & Phenix Mills
Indian Head Mills
Joanna Cotton Mills
John P. King Mfg. Co.
M & F Worsted Mills
Muscogee Mfg. Company
Pepperell Mfg. Co., Dunson Div.
Russell Mfg. Company
Schwarzenbach Huber Co.
Spartan Mills
J. P. Stevens & Co., Inc.
Wabasso Cotton Company
West Point Mfg. Co., Dixie Mill
West Point Mfg. Co., Riverdale Mill

AUTOCOPSERS are now furnishing filling for over

20,000 LOOMS IN 80 MILLS

in just the United States and Canada.

Sold and Serviced by

THE TERRELL MACHINE CO., INC.

P. O. BOX 928, CHARLOTTE, NORTH CAROLINA

Russell Mfg. Co.

(Continued from Page 22)

built for that purpose and named the Elizabeth Mill after Benjamin Russell's daughter. In 1931, a finishing plant was added so that Russell Manufacturing Company could function as a completely integrated fabric producer, doing all its own work from yarn spinning to dyeing.

After the death of Benjamin Russell in 1941, the eldest son, Benjamin C. Russell became president. He guided the company during the strenuous days of World War II, when most of its production went to the armed forces. In 1944 he was called to Washington to head the underwear division of the Office of Price Administration. In addition to these services to his country and to the underwear industry, he was instrumental in starting Russell manufacturing athletic uniforms. He also directed the company's expansion in men's underwear, and deserves much of the credit for the steady movement forward of Russell Manufacturing that has made it one of the leading producers of underwear in the country. After his death in 1945, his younger brother, Thomas, took over as president, a position he has held since that time.

A hard-working executive who lives quietly close to the mills and is at his desk every morning at 7:30, Tom Russell takes pride in the fact that the family-owned company continues to carry on in the tradition of his father. That tradition is one of service to the community. He regards the primary function of the Russell Manufacturing Company to provide for the needs of the people of Alexander City and Alabama generally by giving them gainful employment under good working conditions. He has a justifiable pride in the family tradition of the Russells of devotion to community good. As part of this tradition, the Russell Company operates a modern school for the children of its employees. The Alexander City High School as well as the Negro High School were largely financed by the Russell Family Foundation, a charitable trust established by the Russells. The company has also built and operates in Alexander City a modern hospital for the use of the entire community.

The devotion of the Russell family to the public good was ably summed up by Tom Russell last year in a talk before the Newcomen Society in Birmingham. "The Russell family," he said, "has a heritage of public trust and responsibility to uphold. Many calls are made upon its members to assume duties in many phases of activity—civic, social and business. The members of this family have always lived up to their obligation and have taken on many jobs in civic organizations, in business associations and in education.

"The family believes that The Russell Manufacturing Company is a public organization run for the benefit of its employees and the community where it is located. Its policies are guided by these facts as long as they are consistent with sound business practices." ■

the most complete line of platinum laboratory ware available

Our catalog illustrates and describes the most complete line of platinum implements and equipment available for the laboratory. In addition to all the standard forms and sizes for chemical and physical purposes—in platinum or desired alloys, a large variety of specially designed platinum ware is also available. The lines include crucibles reshapers, triangles, dishes, implement tongs, gauze, wire and sheet, electrodes, anodes and cathodes. The catalog is available upon request.

BAKER PLATINUM DIVISION • 113 ASTOR STREET
NEWARK, N. J.

ENGELHARD
INDUSTRIES, INC.
EXECUTIVE OFFICES:
113 ASTOR STREET • NEWARK 2, NEW JERSEY

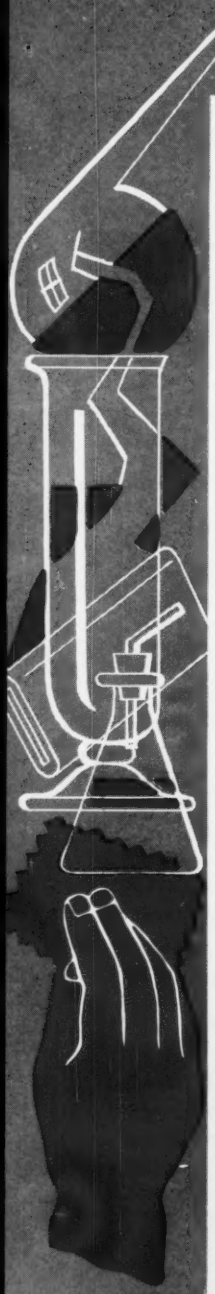
SALES OFFICES: CHICAGO • DALLAS • DETROIT • HOUSTON • LOS ANGELES • NEW YORK • ORLANDO • PROVIDENCE • SAN FRANCISCO • WASHINGTON, D. C.

Please send literature as indicated below, addressed to my attention:

☐ Platinum Laboratory Ware

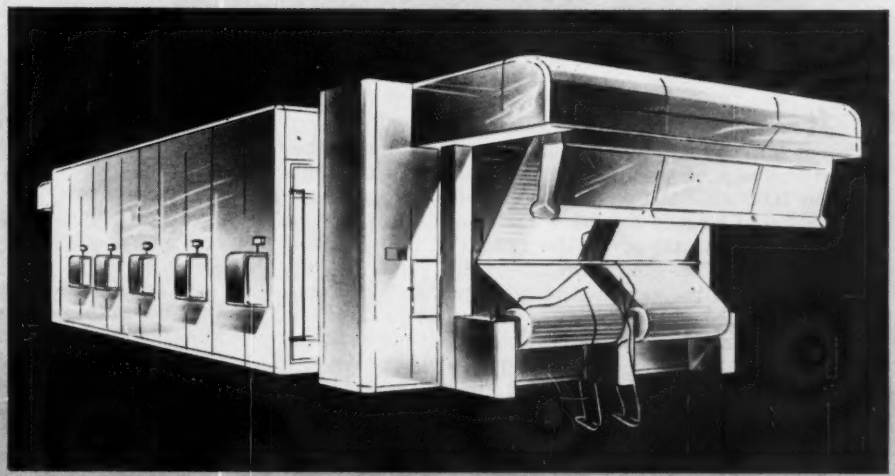
NAME.....
TITLE.....
FIRM.....
STREET.....
CITY.....ZONE.....STATE.....

DYEING and FINISHING SECTION



BLEACHING
PRINTING
SPECIAL
PROCESSING

THIS IS "NATIONAL"...



AUTOMATIC FESTOON TYPE DRYER AND CURING OVEN. Engineered to assure unsurpassed efficiency and productivity. Operates at higher speeds, with maximum drying uniformity and relaxation. Single or double lane. Any size and capacity.

"NATIONAL" *Guarantees Greater Value*—through:

- A thorough analysis of your drying problem by a team of experts.
- The use of proven standards integrated with prescribed design.
- In-plant design and production of all major components to assure controlled quality and maximum savings.
- Personal attention, from initial proposal to proven performance.
- Continuous "on-call" survey, analysis and maintenance service.

DRYING MACHINERY FOR THE TEXTILE, CHEMICAL, PHARMACEUTICAL, FOOD AND OTHER INDUSTRIES

NATIONAL

THE NATIONAL DRYING MACHINERY CO.
HANCOCK ST. & LEHIGH AVE., PHILADELPHIA 33, PA.
Representatives in Boston, Spartanburg, Los Angeles and Foreign Countries
Cable Address—"NADRYMA"—W. U. Code

FORTY-FIRST YEAR • INSTALLATIONS AROUND THE WORLD

Textile Colorists Meet in Buffalo Next Month

New trends in dyeing, finishing will be reviewed at convention

A PROGRAM OF TECHNICAL papers on recent developments in dyeing and finishing coupled with a number of exhibits of products and services will highlight the 1961 Annual Convention of the American Association of Textile Chemists and Colorists to be held Sept. 27, 28 and 29 at the Statler Hilton Hotel in Buffalo, N.Y. A special feature of this year's convention will be the expected heavy attendance of Canadians helped by the nearness of Buffalo to Canadian textile centers. The convention this year is being sponsored by the Niagara Frontier Section of AATCC as host. The Grand Theme of the Convention this year, in harmony with the participation and cooperation of many Canadian dyers and colorists, is announced as: "International Textile Technology—Key to Progress."

One of the features of the convention will be a special program honoring all living charter members. They have been invited to attend as guests of the 1961 Convention Committee. Also as a special feature, the Ladies' Committee has arranged a special program for women who may be present. The program includes a tour of the historic Niagara Frontier. Two luncheons are included in the Ladies' Program, one in Canada, and the other at the Statler Hilton Hotel.

As an added feature of the Technical Program there will be a special demonstration by the Bureau of Mines of the U.S. Dept. of the Interior on the hazards of static electricity. The executive committee managing the staging of the convention has as its chairman William H. Leyking, Allied Chemical Corp. The vice chairman is Nicholas J. Mahoruk, Hamilton Cotton Co. Frederic Sievenpiper, Allied Chemical Corp., is in charge of exhibits. Publicity is in the hands of Daniel E. Boland, Western Electric Co., and Edward P. Carney, Canadian Aniline & Extract Co.

The following are details of the Technical Program as made known by the Executive Committee.

AATCC TECHNICAL PROGRAM

Wednesday Afternoon, Sept. 27

A Carbamate Finish for Wrinkle-Resistant and Wash-Wear Cottons by R. L. Arceneux, J. G. Frick, Jr., J. D. Reid, G. A. Gautreaux, all of the Southern Regional Research Laboratory, U.S. Dept. of Agriculture.

Radiation Induced Graft Copolymerization of Styrene and Nylon by Sharda Das Gupta, J. T. Slobodian and D. L. Rowat, Atomic Energy of Canada.

Application of UV Absorbers to Synthetic Fibers: Improvement in Lightfastness of Dyes on Synthetic Fibers by Ultra-Violet Absorbers, by Dr. A. F. Strobel, General Aniline and Film Corp.

Wool Fabric Stabilization by Interfacial Polymerization: Development Studies of Processing Variables by W. Fong, R. E. Whitfield, L. A. Miller and A. H. Brown, Western Regional Research Laboratory, U.S. Dept. of Agriculture.

Thursday Morning, Sept. 28

Paths to Great Discoveries in Dyestuff Chemistry by Dr. Walter Jenny, Ciba, Ltd., Basle.

Water Conservation and Pollution Abatement by R. Hobart Souther, Research Consultant.

Optimum Dyeing and Finishing of Polyester Blended Fabrics by Ralph Lacy, Victor Salvin and Werner Schoeneberg, Celanese Corp. of America.

Solvay-Brosites Process for Continuous Peroxide Bleaching by W. R. Steele, Solvay Process Division, Allied Chemical Corp.

Friday Afternoon, Sept. 29

Survey of the Australian Commonwealth Scientific and Industrial Research Organization by James McPhee, Senior Research Fellow, Australian Government.

New Developments and Experience in Continuous Dyeing of Wool-Cibaphasol Process by Dr. Karl Menzi, Ciba, Ltd., Basle.

Tariffs by C. K. Black, the Dupont Co.

Fluorescent Whitening Agents in Wash-Wear Finishing of Cotton by R. M. Reinhardt, T. Fenner, J. D. Reid all of Southern Regional Research Laboratory, U.S. Dept. of Agriculture.

(Continued on Page 32)

Why Nopco Chemical Company is the

World leader in foams for textiles

There have to be reasons, and good sound ones at that, why an industrial chemical company can become a leading supplier to the apparel industry.

We cite a few of them here to help you analyze and perhaps re-evaluate your own position in the foam laminate picture. You may agree with many of the country's top mills, laminators, cutters, designers and retailers that these are the qualities they want in a urethane foam and in a foam producer.

EXPERIENCE

Nopco pioneered in the use of foam for apparel back in 1955. But since the turn of the century, Nopco has been a leading supplier of textile processing chemicals. Thus it has had more experience in meeting the exact needs of the textile industry than any other foam manufacturer.

CAPACITY

Multiplant locations make Nopco not only the largest but also the most completely integrated manufacturer of urethane foams in the world. Production capacity has been doubled at the North Arlington, N.J., plant. A new foaming and fabricating plant recently went into operation in Chattanooga, Tenn.

A multimillion-dollar plant in Linden, N.J., will soon begin production of basic isocyanates, essential to the production of urethane foams. And by late 1961 Nopco will open still another foaming and fabricating plant in Lafayette, Ind.

Nopco is now equipped to produce more than 35 million yards of polyester foam a year . . . with consistent quality and the industry's best availability.

CHEMICAL KNOW-HOW

Urethane foam is essentially a chemical product. It takes chemical know-how to consistently produce a uniform quality foam. Chemical facilities to mass produce it. Chemical research to constantly improve it. In this respect, Nopco is uniquely equipped to meet your foam needs.

FAITH IN FOAMS

Nopco has shown it believes in the future of laminated apparel. First by pioneering the foam that made it all possible. Then by investing millions in research, productive capacity, quality controls and promotion.

Now Nopco launches a powerful new advertising and merchandising program designed to help you sell the concept of garments with a new kind of lightweight comfort and shape retention.

Watch for Nopcofoam advertising in the New York *Times Magazine* and leading trade publications. And be sure to see the new Nopcofoam garment hang tag so many of you have requested.

Fashion's home of foam

NOPCOFOAM

INSULINING®

NOPCO CHEMICAL COMPANY
Plastics Division
North Arlington, N.J. • Chattanooga, Tenn.
Los Angeles, Calif.

EXHIBITORS & EXHIBITS

ALLIED RESEARCH ASSOCIATES, INC.
Boston, Mass.—(25)
EXHIBIT: Demonstration of automatic high-speed color measuring system for the textile industry.

A.A.T.C.C. RESEARCH
Wilmington, Del. and Lowell, Mass.—(10, 11, 12)
Information center on AATCC technical activities, publications, and Association affairs. Research committee displays.

AMERICAN SOCIETY FOR TESTING MATERIALS
Philadelphia, Pa.—

ATLAS ELECTRIC DEVICES CO.
Chicago, Ill.—(18)
EXHIBIT: The latest model Launder-Ometer, Scorch Testers, Accelerotor, Pilling Tester, Crockmeters and Perspiration Tester.

BECCO CHEMICAL DIV., FMC CORP.
New York, N. Y.—(3)
EXHIBIT: Hydrogen Peroxide bleaching applications in the textile industry.

BIRCH BROTHERS INC.
Somerville, Mass.—(28)
EXHIBIT: Their two-roll laboratory Minipad, 25 gallon vacuum color strainer, and pocket yarn balance.

THE CHEMSTRAND CORP.
Dyeing & Finishing Applications Research
Decatur, Ala.

CUSTOM SCIENTIFIC INSTRUMENTS, INC.
Kearney, N. J.—(37)
EXHIBIT: Accelerated Soil Tester, American Cyanamid Roller Pressure Crease Tester, Custom Tension Recordograph, the CSI-Flex Tester, their Pilling Tester, electrical Resistance Tester, and electro-static Voltmeter.

DAILY NEWS RECORD
New York, N. Y.

DAVIDSON & HEMMENDINGER
Easton, Pa.—(29)
EXHIBIT: A Colorant Mixture Computer (COMIC) for fast accurate shade matches; a new accessory to the COMIC known as the Tristimulus Difference Computer (TDC).

DIAMOND CRYSTAL SALT CO.
St. Clair, Mich.—(6)
EXHIBIT: Various types of salt, both high grade evaporated as well as pure Louisiana rock salt.

FISHER SCIENTIFIC CO.
Pittsburgh, Pa.—(27)
EXHIBIT: Mettler yarn balance, Reflectance Spectrophotometers, stereoscopic Microscopes.

GASTON COUNTY DYEING MACHINE CO.
Stanley, N. C.—(9)
EXHIBIT: Their new Model 101 stainless steel Beaker and swatch and skein high temperature Dyeing machine.

GENERAL DYESTUFFS CORP.
New York, N. Y.

HOWES PUBLISHING CO., INC.
New York, N. Y.

HUNTER ASSOCIATES LABORATORY, INC.
McLean, Va.—(23)
EXHIBIT: Their Hunterlab D25 Color Difference Meter for tristimulus values of color, direct-reading color difference attachment, D40 Whiteness Reflectometer, and 16 Lustermeter.

MORTON SALT COMPANY
Chicago, Ill.—(4)
EXHIBIT: Their new salt form Morton Dendritic Salt with explanation of its application in the textile industry.

QUARTERMASTER RESEARCH & ENG. COMMAND
Natick, Mass.—(48)
EXHIBIT: Information on the method of controlling shade for Army uniforms and detailed data on specifications and test procedures used; also their permanent water repellent Quarpel.

ROHM & HAAS COMPANY
Philadelphia, Pa.

ARTHUR H. THOMAS CO.
Philadelphia, Pa.—(14)
EXHIBIT: Their Karl Fisher Titration apparatus, their Stormer Viscosimeter, Stone Titrator, Beckman Model DB Spectrophotometer, B & L Spectronic Color Analyzer, Turner Fluorometer Model 111, Photovolt Linear/Log Recorder, B & L DynaZoom Microscope, etc.

UNION CARBIDE CHEMICALS CO.
New York, N. Y.

WALLERSTEIN COMPANY
Staten Island, N. Y.—(26)
Booth to be used as reception space.

New Cotton Cloth Finish

Joseph Bancroft & Sons Co. has developed a new, non-resinous finishing process for cotton cloth. The new chemical process, similar to the one which the company developed for rayon several months ago, is expected to find immediate application on fabrics for men's dress shirts, with other end uses including work clothes, domestics and uniforms. The company reports that its new "Research Project NR" process makes possible the production of cotton garments with wash-and-wear properties equal to or better than "those found in the best resinated fabrics now on the market."

Glass Fiber Finish

The new I-540 Finish, developed by Hess, Goldsmith & Co. for use with high temperature phenolic resins, is said to permit laminated glass fiber fabrics to withstand substantially higher temperatures over a greater length of time then heretofore possible. Test laminates of a 181-type fabric with 30% SC-1008 resin content and using the new finish are reported to show the following results: at 500 degrees F. for 100 hours, flexural strength is 58,300 pounds per square inch, compared to 50,200 pounds per square inch for similar fabrics with previously-established finishes.

Nopco Wetting Agents

A new booklet issued by Nopco Chemical Co. describes the firm's line of wetting agents for diversified industrial uses. The brochure, ISP-45, suggests dozens of applications for the agents in the field of textiles, paper, metal processing, leather, protective coatings and a variety of specialized uses. *For copies of the booklet, write the editors.*

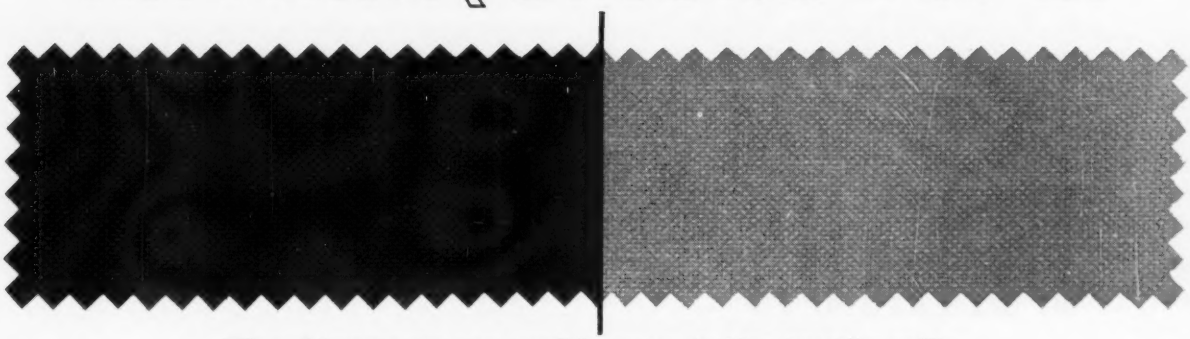
New Textile Resins

Onyx Chemical Corp. has developed two new reactant, textile resins. The first, Onyxset A, is a thermosetting resin for providing maximum shrinkage control at the minimum cost. The colorless stable liquid also imparts durable crease resistance to all types of cotton and rayon fabrics.

Onyxset LC, the second product, is a cyclic resin for providing "wash and wear" finishes for cottons. It also imparts greater shrinkage control, greater scorch resistance and lower residual odor.

NEW

STRIPPING ASSISTANT FOR VAT DYES HIGHLY EFFECTIVE ON ANTHRAQUINONE TYPE!



The Algepons are well known in the textile mills, where they have been used successfully for years.

Now there is a new Algepon®—X R. It represents a new high in efficiency for stripping vat dyes.

It also represents a new high in stripping vat dyes of the ANTHRAQUINONE type, being particularly effective on the most difficult types to strip, such as blue and khaki shades.

Algepon X R is effective, too, in stripping dyes of the azo type.

After the dye has been satisfactorily stripped, there is no tendency for the color to re-develop, under normal conditions.

Algepon X R is easy to use, involving only the addition to a conventional sodium hydrosulfite and caustic soda bath. It has excellent storage properties.

WRITE FOR TECHNICAL BULLETIN FOR FURTHER INFORMATION AND APPLICATION

ARKANSAS CO., INC.

NEWARK, NEW JERSEY

SERVING THE TEXTILE INDUSTRY FOR OVER 55 YEARS

A NEW FINISH FOR

BLENDS

DEVELOPED BY

Kenyon

AMERICA'S LEADING FINISHER OF FINE SYNTHETIC FABRICS SINCE 1936

OUR 25TH YEAR

"Kenyon
OF KENYON, RHODE ISLAND"

125 WEST 41ST ST., N. Y.
Tel. OXford 5-2060, 5-2061

NEW FABRICS

NEW YARNS

New Stretch Fabrics

United Stated Rubber Co. has extended its stretch fabric line to include patterns. Franklin Manufacturing Co., selling agent for U.S. Royal textiles, said the new stretch fabric pattern line is the most complete and varied on the market. The fabrics are made into wash-and-wear garments and are described as press-retentive and crease-resistant. With filling stretch, they are 34% nylon, 33% Orlon and 33% viscose.

In another development, Spartans Industries, Inc., is marketing what it terms as the first all-Acrilan acrylic fiber stretch shirt for men and boys. The cloth is rib jersey made of 100% Acrilan and is produced by Allen Knitting Mills. The shirts, machine washable, expand to any size to fit the torso, and will return to their original shape.

For further information write the editors.

Nonwoven Draperies

Lustron Draperies, Inc. has introduced nonwoven, machine washable draperies made of nonwoven Avisco rayon. Use of a recently perfected chemical binder, which takes the merchandise out of its former "disposable" category, represents a "breakthrough" in such material, according to Lustron. The new binder, researched and developed by Chicopee Mills, is said to add hitherto unattainable wet strength and texture retention. The basic fabric is made with Avisco rayon, firmly bonded into a textured cloth.

Eight patterns in 10 colors on white are available for 90- and 84-inch lengths, each 72-inches wide and retailing for $2.29. *For further information write the editors.*

Bondyne Eaton Suits

Merrymites will introduce this Fall an Eaton suit in Rosewood's Bondyne flannel, a blend of rayon, acetate and Dynel modacrylic, a Union Carbide textile fiber. Bondyne fabrics are hand and machine washable although they should be taken from the machine before the tumbling cycle starts. If allowed to drip dry, they require minimum ironing, according to Union Carbide. *For further information write the editors.*

Super Bulky Crew Sock

Seneca Knitting Mills has developed a new "super bulky crew sock" manufactured from 75% Du Pont virgin Orlon spun on the woolen system and 25% stretch nylon. The sock is made on a 4½-inch 72 needle machine for super bulk and is merchandised in a polyethylene display bag prominently featuring the Du Pont Orlon construction. The socks, designated "Skipper," wholesale at $6 per dozen. *For further information write the editors.*

Muslin Sheet Printing

The Kendall Co. has announced development of an improvement in the printing of sub-count muslin sheets. Floral patterns are now said to have the fastness, clarity and detail available before only on the finest muslins and percales. Poly-packaged sheets and matching cases, in both twin and double sizes, are featured as promotional merchandise.

Gains seen for polyester, Arnel blends

Ira Jacobson,
TREASURER, TEXTILE DISTRIBUTORS INSTITUTE

GAZING INTO a crystal ball to see the picture of what manmade fibers will be doing during the coming season is an interesting occupation. The textile industry is presently in its Fall 1961 operation and this is always a difficult time for synthetic fibers.

During this period of operation, a great number of items of wearing apparel are made with fibers composed of wool, which comes into its own in a most important way. The areas of interest for the manmade fibers are mostly in the sphere of so-called dressier fabrics; or on the other hand, in those fabrics which are made from a blend of synthetic fiber and wool or where synthetic fibers are used to simulate a woolen effect.

In addition to this, some of the more common manmade fibers, such as acetate and rayon, are used in the construction of special yarns which, when woven into fabrics, give textured effects such as tweed or boucle. Fabrics of this type are also prominent in the fall picture.

However, the fall season is a short-lived one and the synthetic fiber industry always looks forward with great expectation to the spring and summer season.

Polyesters Seen Big

For the coming year, of all the manmade fibers, polyester seems to hold the key to large volume. The best known and most prominent of the polyester group is Du Pont Dacron. This fiber is used in both all-polyester fabrics and in intimate blends of polyester and cotton, or polyester and various types of rayon, and these loom as the most important group of fabrics in the Spring ready-to-wear picture. The consumer has had great satisfaction from the standpoint of appearance, ease of care and wearing qualities which have made her an avid buyer of garments made of fabrics containing this fiber.

The various blends of yarn and also filament polyester yarn lend themselves to a wide variety of fabrication, ranging from the dressier, silkier feeling goods to fabrics which lend themselves magnificently, both from the standpoint of appearance and performance qualities, to the casual and sportswear field.

This last year, sportswear has become the most important single look in the American women's apparel field. In addition to polyester, yarns made of triacetate fiber and blends of triacetate and other fibers have also made a huge impression in the dress and sportswear fields.

The rest of the manmade fibers make contributions far below the level of the two mentioned above. Actually, the important addition to the whole textile picture has been the wonderful affinity of our most important American natural fiber, namely cotton, and the natural fiber, wool, and in a lesser degree, other synthetic fibers, with polyester and triacetate.

For many years a group of spun rayon fabrics which simulated linens in both appearance and touch were very important in the fabric field. However, for several years preceding 1961 they lost much of their favor and went far into the background. The 1961 spring season showed a remarkable recovery of this classification of fabric and 1962 probably will show an even greater increase in this field. In weights these goods run all the way from a lightweight handkerchief type of linen to the heavier suiting varieties. The goods also range in surface appearance from the smooth, even look to the textured look, and are made with nubby yarns and various novelty textured yarns. Fabrication in this area will provide for large volume in the Spring 1962.

Rise in Knit Fabrics

The knitted field is continuing to show great strength. With the increased interest in textured types of yarn, this area will take a place of great importance in the coming year's program. Various pilot operations conducted during this spring 1961 season have proven the worth of this type of fabrication and it should hold great promise for increased volume in the manmade fiber field.

An extremely desirable fabric is being made of triacetate yarn knitted on tricot machines and has been thoroughly accepted by the American consumer. There has been a definite resurgence in the popularity of tricot which is comparable to the tremendous vogue of this fabric some 8 or 10 years ago when it was made of acetate yarn and then later of nylon yarn. The triacetate fiber has rejuvenated this whole picture and points to large volume business in 1962.

Use of all types of fabrication mentioned in the foregoing paragraphs will be shared by the field of plain dyed fabrics and printed fabrics. There is every indication that the popularity of printed fabrics, which has risen during the past several years, will continue to grow in 1961-1962 and much of the yardage consumed will be through prints.

This feeling had made itself felt in the area of heavier fabrics, which is a recent and continued development in the printed look. Particularly in the sportswear field, heavier types of fabrication in the printed state have become very much more far-reaching in their use and will continue to do so during the coming season. ■

Stronger Rayon Tire Yarn

American Viscose Corp. is moving into commercial production of a new Tyrex rayon tire yarn which is 15% stronger than current yarns, Gerald S. Tompkins, president, announced recently.

The new yarn, with a tensile strength of over 40 pounds in a standard 1650 two-ply cord, is considerably stronger than any currently available. Tompkins said the new development is timed to the introduction of two-ply tires into the market. The great strength of this cord will be particularly significant for the low-ply construction. The new yarn will be available in all deniers for use in passenger car and heavy duty tires.

New Modacrylic Filament

A new multifilament modacrylic yarn tradenamed "Aeress" is now being produced by Union Carbide Chemicals Co., a division of Union Carbide Corp., which has manufactured Dynel modacrylic staple fiber for a number of years. The new filament yarn is said to be somewhat different chemically than Dynel although it falls into the same generic class of modacrylic.

The new modacrylic yarn is said to have a higher acrylonitrile content than Dynel and a higher degree of heat resistance. Its tensile strength is reported to be 2.5 grams per denier, wet and dry. It is expected to find its first commercial use in woven dress fabrics. Prices of the new yarn are: $2.10 a pound for 75 denier 30 filament; $2.05 for 100 denier 40 filament; $2.00 for 150 denier 60 filament; $1.95 for 200 denier 80 filament.

Allied Expands Isocyanate Output To Meet Growing Foam Demand

Plans to construct a 15 million-pound-a-year isocyanate plant at an undisclosed site on the West Coast to serve Western consumers of urethane foam, coatings and elastomers, have been announced by Allied Chemical Corp.

The West Coast plant is scheduled for completion by 1962. Allied Chemical only recently completed a new 20-million-pound-a-year Actol polyether plant at Baton Rouge, La., making the company the first American firm to supply all major components for the expanding urethane industry.

According to Neal M. Draper, vice president of Allied's National Aniline Division, Allied's investment in urethane research and plant facilities will soon exceed $28 million.

New TDI Member

Intercontinental Fibers, Inc., has been admitted to associate membership in the txtile Distributors Institute. Michael Trachtenberg is president of the firm which is located at 350 Fifth Ave., New York 1, N. Y.

New Board Members

Two new members have been elected to the board of directors of the Textile Distributors Institute, according to a recent announcement by Irving Roaman, president. They are Eugene Messner, president of Loomskill Inc., and Philip Feibusch of M. Lowenstein & Sons, Inc.

Lycra Supply Situation

The supply situation of Du Pont's Lycra spandex fiber was recently clarified by Daniel M. Colyer, Lycra coordinator, marketing services section, textile fibers department of Du Pont.

Completion of Du Pont's commercial-scale plant at Waynesboro, Va., during the second quarter of 1962, should increase supplies of Lycra anywhere from six-fold to 10-fold, compared to present supplies. Colyer pointed out that of all Du Pont's manmade fibers, Lycra spandex fiber requires the most intricate, most complex chemical reactions and manufacturing processes. Since the start of 1961, Du Pont has spent more than $10 million for research and development to bring Lycra out of the test tube, and this figure does not include construction costs.

Colyer described the spandex fiber as an elastomeric —it stretches and snaps back into shape as rubber does. It is a multi-filament fiber, which permits sewing without needle cutting.

Demand for Lycra spandex fiber, so far, has far outdistanced the present available supply. Colyer said that Du Pont's best estimate is that less than 10% of the foundation garments sold at retail are made with spandex fiber. Until Lycra is in relatively good supply a year from now, foundation retailers will have to fill in their lines with rubber, he said. Despite the shortage of spandex fiber, the foundation trade generally has made wide use of the available supply, Colyer said, adding that each manufacturer should make certain that each garment contains enough Lycra to do the job it is supposed to do.

At present, there is no garment of 100% Lycra on the market. While Lycra can replace the elastic components of garments, Colyer said, it should be knit or woven with another fiber to provide a complete balance of properties in the garment. Lycra, he said, is the only spandex fiber used "bare," without a wrapping of a covering yarn, such as nylon.

New Textile Chemical?

Du Pont's Industrial and Biochemicals Department has added "Baymal" colloidal alumina to its inventory of basic chemicals available to industry. The new chemical has possibilities as a finishing material for woven and knitted fabrics.

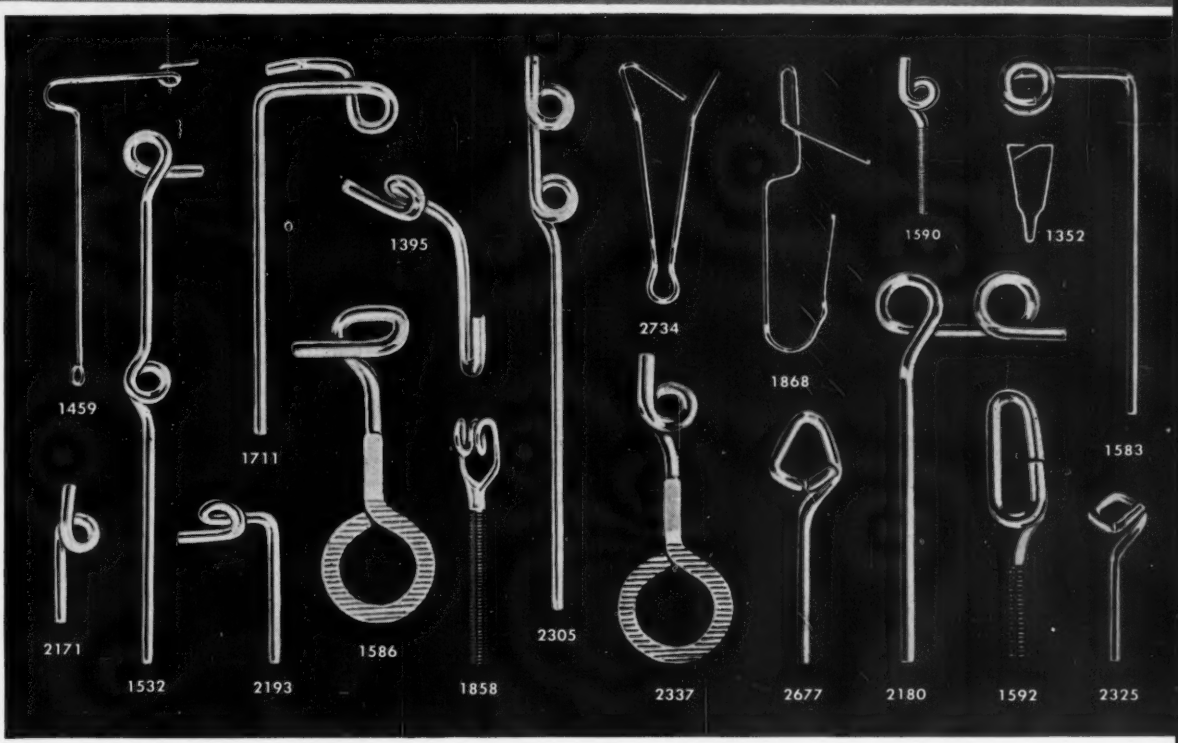
Chemically, Baymal is a white, free-flowing powder, consisting of clusters of minute fibrils of boehmite (A100H) alumina. Its advantages, which present many potential applications, include: it is water dispersible; it consists of fibrillar particles; the particles have a high surface area; when dispersed in water, Baymal fibrils assume a positive charge; it is hydrophilic and organophilic, and it has low toxicity.

Produced in development quantities at Du Pont's Belle, W. Va., plant, samples are offered at $3.50 a pound.

New Nonwovens Plant

Kimberly-Clark Corp. is acquiring an eastern facility to manufacture nonwoven fabrics developed by Kimberly-Stevens Corp., a jointly-owned subsidiary of Kimberly-Clark and J. P. Stevens Co., Inc. The idle Robertson Bleachery, New Milford, Conn., will be renovated as a manufacturing unit of Kimberly-Stevens. Factors in the transaction are the plant's proximity to eastern markets and to the Kimberly-Clark plant at New Milford.

MACHINERY and EQUIPMENT SECTION



What a *Difference* . . . in

MITCHELL-BISSELL

CHROMIUM-PLATED THREAD GUIDES

Special care is employed in the plating of Mitchell-Bissell Chromium Plated Steel Wire Guides to assure maximum density, hardness and uniformity. Our methods of fabricating and polishing develop a surface smoothness far beyond usual commercial standards. Because of their superior resistance to thread wear, these guides have proven ideal for processing all modern synthetic fibre yarns and blends. More than 3,000 patterns. Special patterns to your specifications. Can be supplied in mirror, satin or matte finish. Samples and Catalogs on request.

"PERFECTION" GRADE. Guides are available to meet conditions demanding finish and plating well beyond the usual standards. These are truly *premium* guides, representing the ultimate in wire thread guide plating.

EST. 1882

MITCHELL-BISSELL CO.

TRENTON, NEW JERSEY

Southern Representative: HOLT ASSOCIATES, INC., *Greensboro, N. C.*

Automation in the mill

Whitin's new Automatic Doffer System

A BIG STEP forward in the field of automatic doffing has been taken by Whitin Machine Works with the introduction of its Audomac doffer system. For years the doffing operation has resisted mechanical improvement and has been performed manually. The slow and laborious nature of the operation has been a traditional source of dissatisfaction to employee and employer alike.

An exclusive licensing agreement was signed recently between Whitin and Deering Milliken Research Corp. covering the manufacturing and marketing of Milliken's automatic doffer for spinning frames and twisters. This equipment is now being made and marketed by Whitin Machine Works in the United States and Canada. It will also be sold and distributed in other countries through Whitin International Ltd.

The decision by Whitin to undertake the production of the Audomac was based on intensive investigation of both short and long range industry requirements for such equipment. The findings clearly pointed up the industry need for automatic doffing; they also disclosed the fact that mills were also looking forward to a more far-reaching development in the form of some type of "bobbin-handling" system.

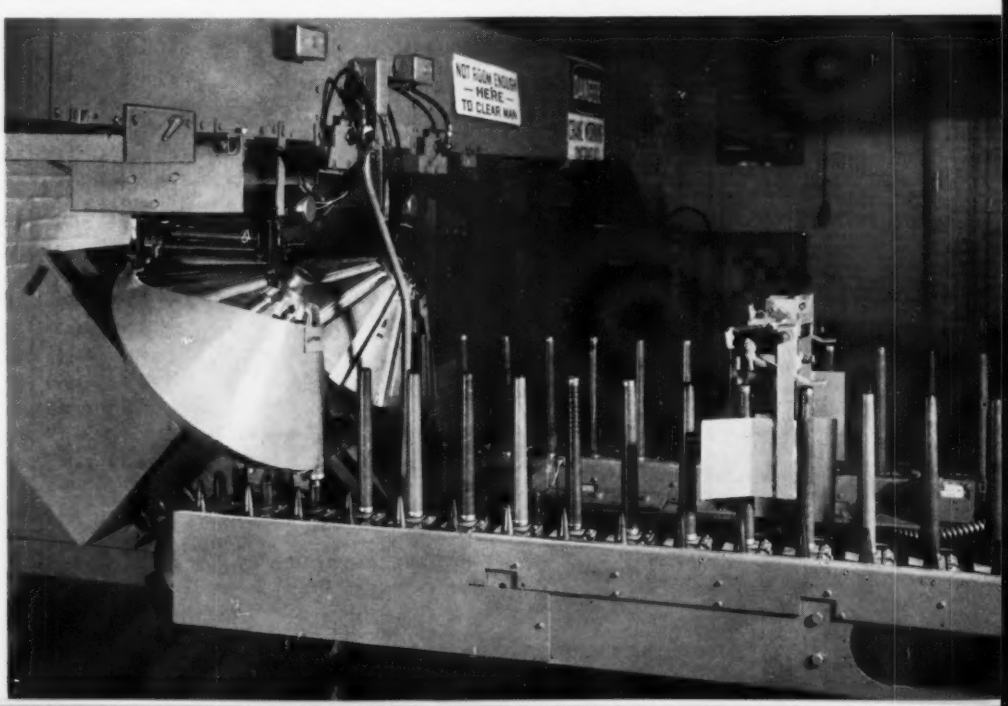
The Milliken prototype machine has been operating for many months under actual mill conditions at Drayton Mills, Spartanburg, S. C. There it has already doffed a total of over five million bobbins during its daily operations. While the name Audomac was coined partially to describe its functions of automatic doffing, monitoring and cleaning, the machine actually handles other functions as well. In the sequence of its automatic operation, it handles bobbin loading, selection, transportation, monitoring, doffing, donning and cleaning. An entire frame of any length can be doffed in two minutes of downtime with fewer ends down than is normal in manual doffing.

How Audomac Works

The doffing mechanism is mounted on an overhead crane and can move crosswise as well as travel lengthwise of the bay. Frame cleaners of the blower type are mounted at each end of the crane. Vacuum type floor sweepers with automatic waste cleanout stations give highly effective control of lint and floor waste. The crane, complete with doffing mechanism and cleaning equipment, moves under automatic control along the lengthwise bay at a speed of 135 feet per minute. The doffer can move crosswise on the cranes at a speed of 25 feet per minute.

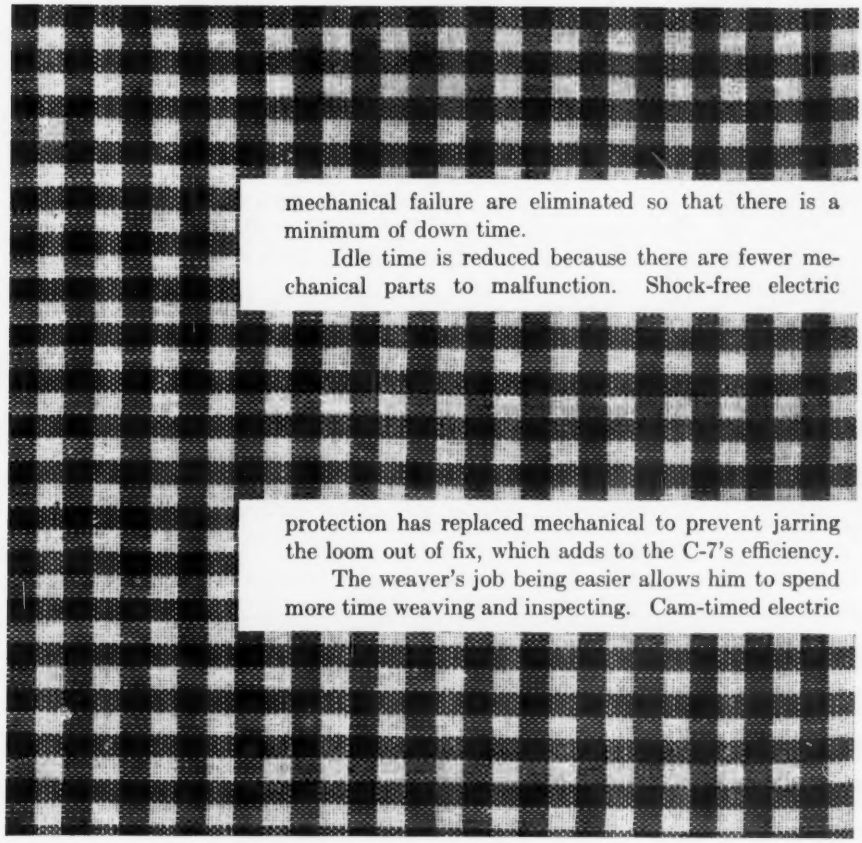
When not in use as a doffer, the crane traverses the length of the bay performing as a cleaner for frames, floors and ceiling. When a frame is within ten minutes of a doff, a signal is transmitted from

(Continued on Page 40)



In the Whitin system bobbins are transferred from the distribution conveyor to two parallel bobbin conveyors which make up a loading and unloading station. One of these stations is located in each bay of the spinning room and it can be mounted on a spinning frame creel

EFFICIENCY of a loom combined with Speed determines its ultimate Production—the amount of cloth woven in a given time. C&K's C-7 Loom operates with peak efficiency because most causes of yarn and

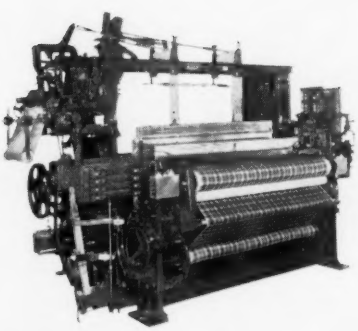


mechanical failure are eliminated so that there is a minimum of down time.

Idle time is reduced because there are fewer mechanical parts to malfunction. Shock-free electric protection has replaced mechanical to prevent jarring the loom out of fix, which adds to the C-7's efficiency.

The weaver's job being easier allows him to spend more time weaving and inspecting. Cam-timed electric controls substitute for many of his skills and efforts. He makes quicker filling and warp break repairs when they occur. Devices such as the automatic lay reversal when the filling breaks save operations he once performed. Single pick control for startups and push button lay reversal after tying in a warp end also increase the weaver's efficiency.

We'd like the opportunity to discuss further how these increases in productivity developed in the C-7 Loom can help reduce *your* cost per yard.



QSEWMT

QUALITY OF CLOTH · SPEED OF LOOM
EFFICIENCY · WEAVER ACCEPTANCE
MAINTENANCE COSTS · TRAINING TIME

CROMPTON & KNOWLES CORPORATION

WORCESTER, MASSACHUSETTS

C&K

WORLD LEADERSHIP IN AUTOMATIC BOX LOOMS–RESEARCH–ENGINEERING–MANUFACTURE

CHARLOTTE, N. C. / ALLENTOWN, PA. / CROMPTON & KNOWLES JACQUARD & SUPPLY CO. PAWTUCKET, R.I. / CROMPTON & KNOWLES OF CANADA, LTD., MONTREAL, QUEBEC

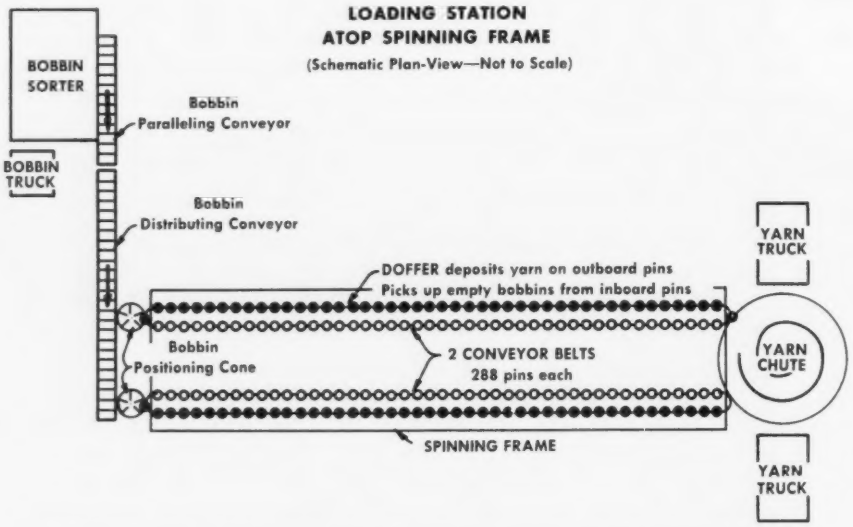
(Continued from Page 38)

the frame yardage counter which automatically causes the Audomac doffer to search for the frame. If, during the trip away from the loading station, the signal is set up, the doffer will go to the far end of the room and, at a reduced speed of 15 feet per minute with cleaning blowers shut off, search for the frame to be doffed. The doffer moves across the bay at this same signal until it is located over the frame to be doffed.

a number of important advantages which it offers mills are apparent. Among them are:

1. Frame down-time for automatic doffing is 2 minutes.
2. Ends down per mechanized doff: 8 to 10 average.
3. Maximum repetitive doff rate: 6 to 15 frames per hour depending on specific room conditions.
4. "S" and "Z" twist yarns are doffed equally well; thus traveler position at time of doff is not a problem with this system and there is no need for right hand and left hand units.

(Continued on Page 44)



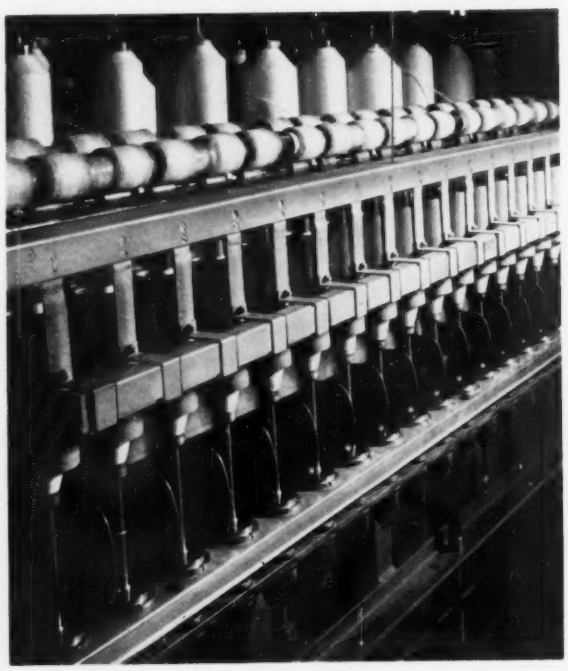
Schematic plan-view (not to scale) shows arrangement of all functioning parts

Whitin anticipates that transportation of full bobbins, depending on mill layout, may be made directly to spooling or winding areas. Inasmuch as the bobbins may be removed from the frame and fed to the next process in the same order in which they were aligned on the spinning frames, there is considerable potential for establishing improved quality control procedures.

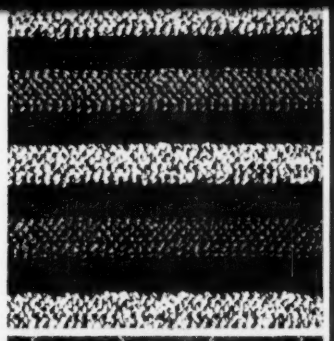
The advantages of having the bobbins in correct order exactly as they left the spinning frame and under individual control presents many aspects for future development. In the case of warp bobbins this precision control suggests the possibility of conveying directly into the receivers of the next process, whether it be winding, spooling or twisting. In the case of filling bobbins the exact bobbin control available through this system opens several attractive possibilities by way of automatic magazine loading. The possibility of quality control monitoring so that defective spinning positions can be pinpointed quickly is quite feasible. The advantages of being able to identify and correct the small percentage of spindles that produce the majority of bad yarn are very appealing.

The prototype at Drayton Mills handles 24 spinning frames, 288 spindles, 3½" gauge, lifting approximately 100,000 bobbins of 40's cotton per week. Power requirement on this particular operation is as follows: Doffing Function—3 h.p.; Frame and Ceiling Fans—16 h.p.; Loading and Unloading Station—1 h.p.; Bobbin Handling (per room)—2 h.p.

After reviewing the number of operations which the Audomac doffer system performs automatically,



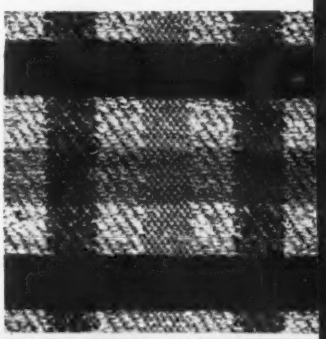
To doff loaded bobbins, a rail is lowered on each side of frame. On the rail is mounted individual bobbin graspers for each spindle. The pneumatic devices lift the bobbins with firm yet gentle force. The empty bobbin grasper then is lowered into position and places the empty bobbins on the spindles

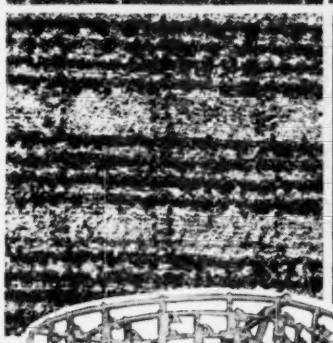


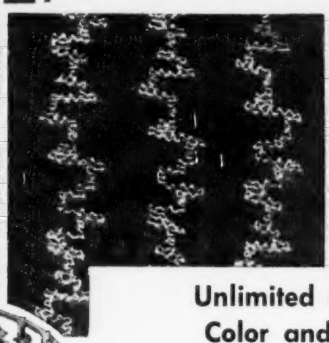
LPW

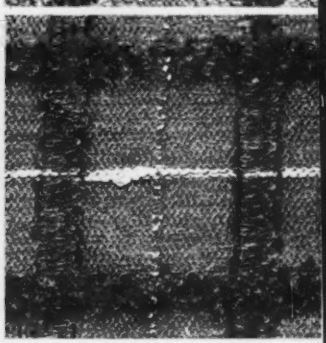
LOMBARDI WRAP MACHINE

For Fabrics like none that have been knitted before



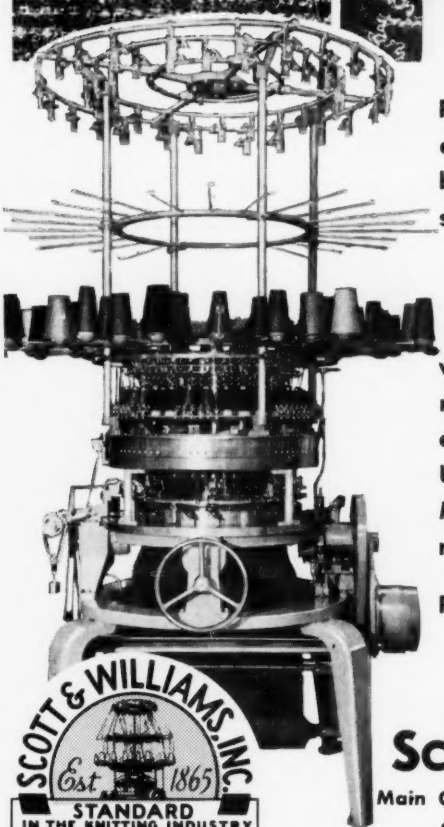






Unlimited in Design, Color and Textures

Represents a radical departure from existing techniques for incorporating both "Sculptured" and/or smooth design effects in Jersey fabric.

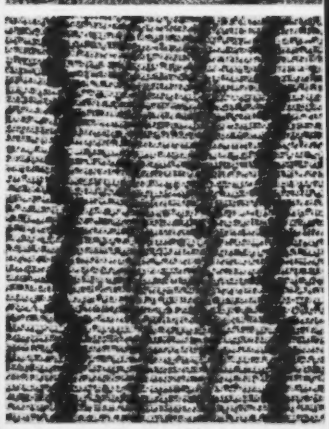


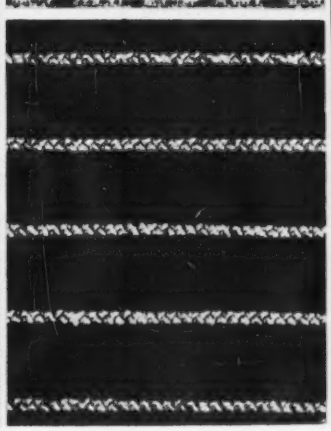
WITHOUT ANY CHANGE OF THE KNITTING MECHANISM

will produce innumerable types of fabrics: — Suiting, Swimwear, Upholstery, etc.

Unusual effects may be obtained with Metallic, Knop, Slub, Mohair and Chenille yarns.

Patterns — up, down and across.





MANUFACTURED,
SOLD AND SERVICED BY

SCOTT & WILLIAMS, INC.

Main Offices and Plants: LACONIA, NEW HAMPSHIRE

Sales Offices: Empire State Building, New York 1, N.Y.

Divisional Offices
High Point, N. C. — Rossville, Ga.

SCOTT & WILLIAMS, INC. Est. 1865 STANDARD IN THE KNITTING INDUSTRY LACONIA N.H. U.S.A.

heanium

The Industrial Ceramic of Gem Hardness

Your best guide to Lower Costs

If guide wear or corrosion is a problem in your mill, we suggest that you consider the possibilities of Heanium as a replacement part.

MOH's Hardness	9.5	Water Absorption	0.0
Specific Gravity	3.8	Operating Temp.	1500C 2800F

SOUTHERN REPRESENTATIVE:
Robert L. Carroll, Greenville, S. C. (P. O. 1676)
PENN. REPRESENTATIVE:
R. P. Bennett, 333 Ridge St., Honesdale, Pa.
NEW ENGLAND REPRESENTATIVE:
American Supply Co., Central Falls, R. I.
MID-WESTERN REPRESENTATIVE:
J. P. Williams, Jr., 105 Van Buren St., Woodstock, Ill.
WEST COAST REPRESENTATIVE:
Paul I. Kenner Co.
228 Shaw Rd., So. San Francisco, Calif.
AUSTRALIAN REPRESENTATIVE:
N. G. Clark (Machinery) Pty., Ltd.,
143 Latrobe St., Melbourne, Australia

SWISS REPRESENTATIVE:
Theo Schneider & Co., Rapperswil am Zurichsee, Switzerland
CANADIAN REPRESENTATIVE:
The E. V. Larson Co., Ltd., 572 Queen St., East Toronto 2, Ontario

TEST SAMPLES OF STANDARD HEANIUM GUIDES WILL BE FURNISHED WITHOUT CHARGE.

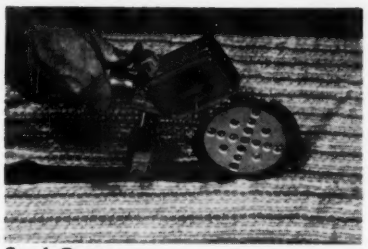
COMPLETE ENGINEERING SERVICE.

Write for Complete Catalog and Samples to:

HEANY INDUSTRIAL CERAMIC CORP.
Dept. 10, New Haven 3, Conn.

HEANY INDUSTRIAL CERAMIC CORP. NEW HAVEN 3, CONN.

NEW Equipment Machinery



Seal-Cutter

An instrument for cutting, and at the same time sealing materials made from acetate, rayon, nylon, acetate cotton mixtures, etc., has been developed by Sjostrom Machine Co. Designated the Seal-Cutter, the machine is pushed across the material by an operator much the same as a pair of scissors or a rotary knife. A sharp edge of a carboloy-iridium alloy is heated to fuse the threads of the material after the cut; consequently, there is no raveling or fraying of the threads. *For further information write the editors.*

Foam Paring Machine

Falls Engineering and Machine Co. has developed a circumferential paring machine for fabricating logs of synthetic foam into semi-continuous sheets for use as clothing innerlinings and rug backing. The manufacturer reports that the new machine will provide foam producers and fabricators—including textile mills—with a faster and cheaper way of fabricating foam specifically for use with textiles. When a log of manmade foam is placed on the machine's core bar, it is automatically rotated into the cutting head in such a way that a continuous sheet of foam is pared or peeled from the log. The pared stock is threaded between two compression rolls and then passes on to a wind-up assembly which rolls the stock up on a two or three inch paper core. The pared stock is then ready for laminating to cloth. Foam can be pared into a sheet as thin as one-sixteenth of an inch. *For further information write the editors.*

Table Top Printer

A table top printing and die cutting machine for producing pressure-sensitive labels at point-of-use is being offered by Adhesive Label Corp. of America. Called the Printmatic, the machine works automatically, printing and die cutting the labels required, and also removes waste and rewinds pressure-sensitive labels from roll label stock. Tape is processed at the rate of about 110 labels a minute. *For further information write the editors.*

Avistrap Tools

New tools, sealers and accessories available for use with Avistrap cord strapping, the new high-strength rayon packaging material, are described in a brochure prepared by the Industrial Packaging Department of American Viscose Corp. The brochure illustrates various applications and describes the major advantages of Avistrap, which has been on the market for only a year. *For copies of the booklet write the editors.*

Card Sealing Service

The Wildman Jacquard Co., in conjunction with Ultra-Sonic Seal Co., has developed a new method

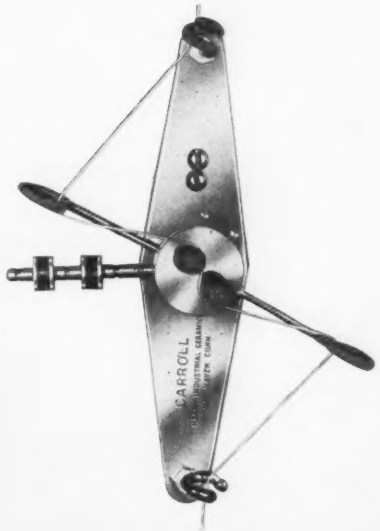
of sealing or joining mylar pattern card loops. The sealing is accomplished by means of ultra-sonic sound waves passing through a 1/32-inch wide seam overlap. The sound waves produce a high molecular heat within the mylar material. By adding a minimum of pressure a homogeneous weld or seam is formed. Wildman Jacquard is now offering the sealing service for those customers producing their own mylar pattern cards.

Yarn Inspector

A modular, warp yarn inspection developed by Fabrionics Corp. is said to offer in one instrument complete protection against all objectionable defects of both length and diameter. The instrument, designated the Mark III Warp Yarn Monitor, is a photoelectric defect detector.

Depending on the user's needs, the instrument's electronic modules would include a power supply and any desired combination of amplifiers and the exclusive Fabrionics Detect-All. The latter catches all linear defects above a predetermined size. *For further information write the editors.*

HEANIUM®



THE CARROLL REDRAW TENSION

This tension device was an original development by Heany to redraw nylon directly from the pirn at normal speeds and up to 450 or 550 yards per minute. It will hold tensions very closely in a range of ½ gram up to about 20 grams for special purposes.

ADVANTAGES

- Eliminate Pirn Marks
- Self Cleaning
- Faster redraw speeds
- Long wearing Heanium Parts
- Gravity principle
- Visual in operation
- Simple, fast adjustment

"Your guide to lower costs"

HEANY INDUSTRIAL CERAMIC CORP.
NEW HAVEN 3, CONNECTICUT

Southern Representatives: R. L. Carroll, P. O. Box 1676, Greenville, S. C.

Whitin's Doffer

(Continued from Page 40)

5. Spindle separators do not have to be tilted to allow doffer to function.

6. Frames situated as close as 12" to columns can be doffed.

7. "Short doffs" can be eliminated.

Summing up, Whitin sees the potential, long-range effects of the Audomac doffer system as follows:

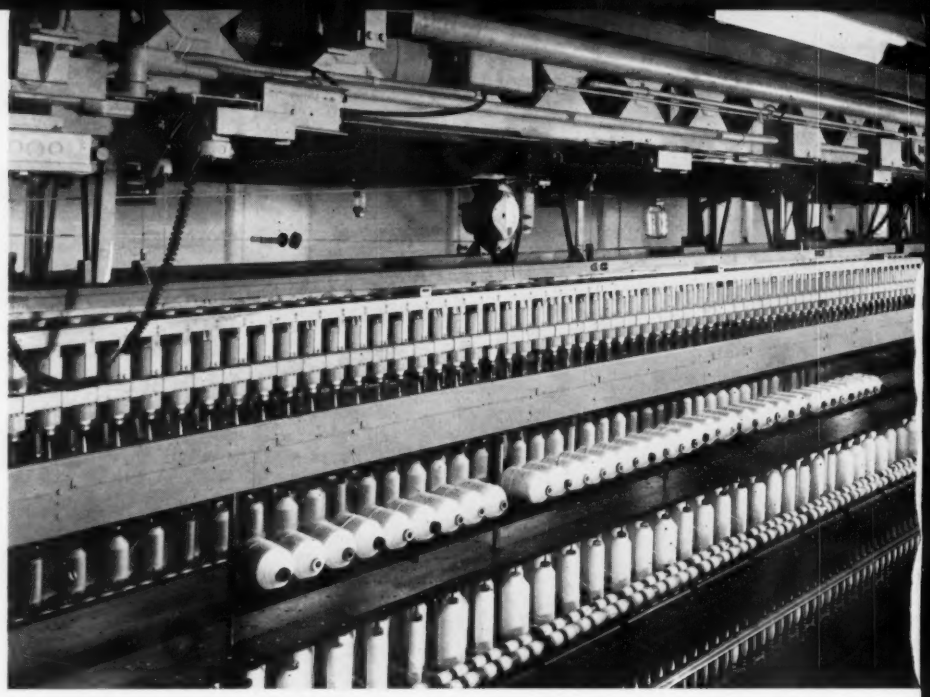
1. Higher levels of spinning room efficiencies will be attained.

2. Traverse and bobbin lengths will tend to be standardized at shorter lengths.

3. Frame lengths will become more standardized.

4. Frames will be installed as groups of identical machines in each room bay.

5. With the use of the Audomac, direct spun filling will, in some cases, be more attractive than heretofore.



After picking up the loaded bobbins and depositing empty ones on the spindles, the doffer then moves over to the loading and unloading station and positions itself. The operator then touches the button which causes the grasper rails to discharge the full bobbins and recharge the graspers with empty bobbins

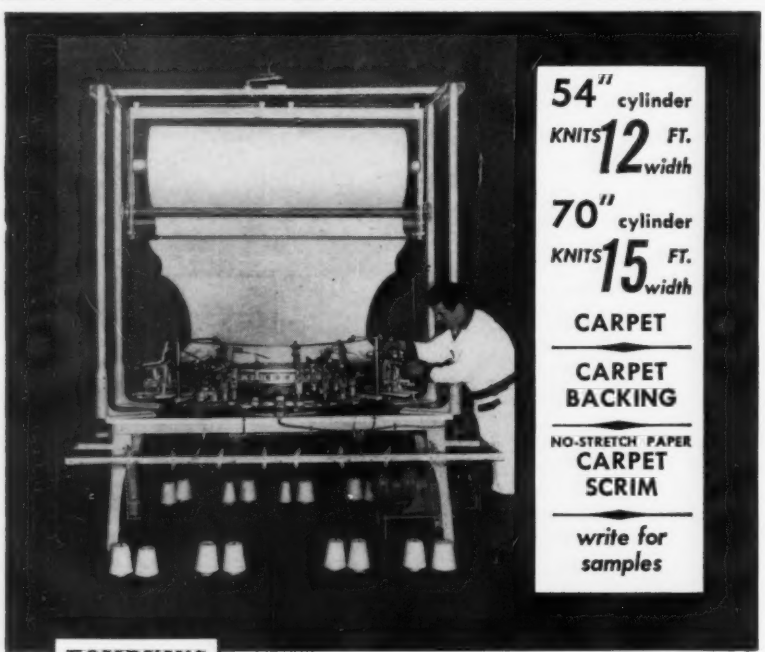
6. Techniques of automatic quality control will come into use and bring higher quality output.

7. Integration can be made of materials handling systems for bobbins, yarn, roving and sliver to and from spinning rooms.

8. Spindle maintenance will be reduced.

9. New mill construction will plan more frames side by side per bay.

10. Production per unit of floor space will be increased.



TOMPKINS SPRING NEEDLE D-1 CIRCULAR KNITTING CARPET MACHINE

Now you can produce 12 or 15-ft. wide carpet and carpet backing — including paper scrim — *faster, at lower cost* with a 54" or 70" TOMPKINS D-1. Both models use standard Tompkins parts *plus* the big quality and economy bonus of the time-proven Tompkins knitting principle. *Write for full details . . .*
TOMPKINS BROS. CO. • 623 Oneida St. • Syracuse 4, N.Y.
Circular Spring & Latch Needle Knitting Machines Since 1846

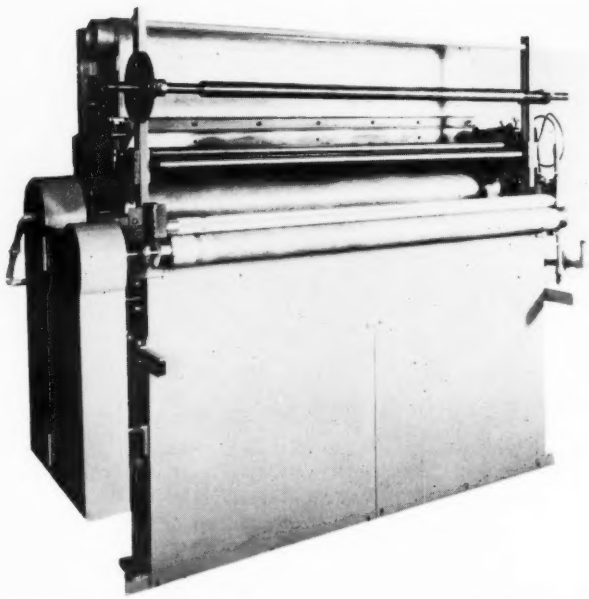
Fabric Shift Tester

United States Testing Co. has issued literature describing its fabric shift tester, a precision instrument for laboratory evaluation of fabric "blistering." The tester conforms to requirements of American Society for Testing Materials, American Standards Association and Federal Specifications. It measures yarn distortion in woven fabrics after surface friction has been applied. This condition, known as "blistering," is prevalent in low-count filament yarn structures, and impairs the surface appearance of the fabric by displacement of the warp or filling yarns through sliding or shifting. *For further information write the editors.*

Rib Type Shuttle Spring

An improved patented rib type shuttle spring is now being offered by Draper Corp. Reported features of the spring are: it has matching shuttle cut for shuttle spring rib to hold spring in more accurate alignment; it has a stiffer spring with superior holding power; it provides additional spring strength through increased thickness of metal at the base of ring grooves, and has precision-ground top and bottom to assure accurate milling of ring grooves. *For further information write the editors.*

EDGEWATER *Profit Making Machines*



EMCO LAMINATING MACHINES

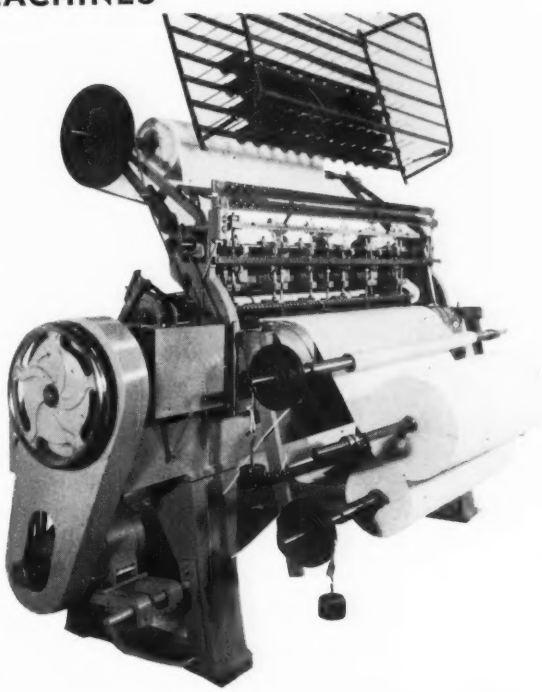
For bonding woven, knitted or non-woven fabrics with sheet foam materials. Laminating is done by flame bonding or if desired, by use of adhesives. Furnished in three sizes—60 inches 72 inches and 84 inches.

Production is from 80 to 120 feet per minute. Floor space required is only 7 feet x 8 feet for 60 inch machine—7 feet x 9 feet by the 72 inch machine—7 feet x 10 feet for 84 inch machine.

Let our engineers show you the profit-making possibilities of laminating—using the EMCO.

EMCO QUILTING MACHINES

Edgewater also makes every type of quilting machine in widths from 48 inches to 120 inches, with desired needle spacing. Ask us to estimate on your needs—complete machines, replacement parts or accessory equipment. Your letter or telegram will receive quick response from us.



☞ *Send for folders on each of these machines now.*

EDGEWATER MACHINE CO., INC.

13-20 131 Street

College Point 56, New York

General Distributors

K. P. Williams Co., Inc.
295 Madison Avenue,
New York 17, New York

CERTIFIED MANUFACTURING CO.
51-11 Queens Blvd.
Woodside 77, Long Island, N. Y.

What's News in Rubber...

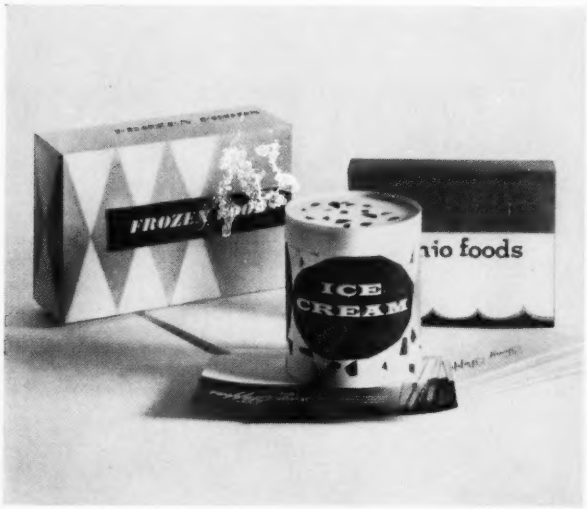
NEW ENJAY BUTYL LATEX plays a vital part in the roofing system of Longway Planetarium, Flint, Michigan.

The benefits of Butyl are now available in stable emulsion form!

New Butyl Latex roofs the heavens

Now you can get the outstanding properties of Butyl rubber in convenient latex form. New Enjay Butyl Latex is a chemically stable emulsion of 55% solids in water. Properly compounded, it combines the ozone resistance, low-temperature flexibility and low permeability of the base polymer with a high degree of chemical, mechanical and freeze-thaw stability.

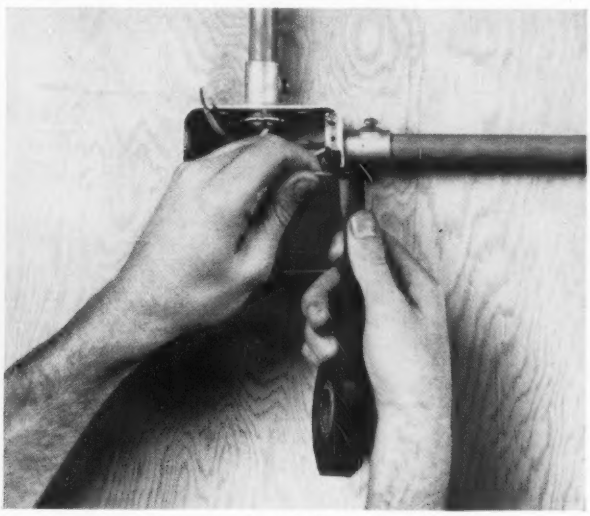
Enjay Butyl Latex is odorless, safe and easy to handle; compatible with a wide range of resin and elastomeric emulsions. It can be easily compounded with pigments, fillers, thickeners and tackifiers. Pseudoplastic in nature, it exhibits remarkably low viscosity at high solids levels. Shipped in insulated 8,000- and 10,000-gal. tank cars and 55-gal. steel open-head drums.



PAPER COATINGS containing Enjay Butyl Latex resist oil and water; improve printability, ink hold-out, brightness and gloss.

TEXTILE TREATING and proofing with Enjay Butyl Latex leaves the fabric surprisingly supple, with a good hand and drape.

TIRE-CORD DIPPING with Enjay Butyl Latex makes possible the all-Butyl tire, which gives the smoothest and safest ride today!



ADHESIVES formulated with Enjay Butyl Latex provide excellent resistance to moisture, aging, oxygen, ozone and chemicals.

ENJAY OFFERS EXPERT TECHNICAL ASSISTANCE

The Enjay Laboratories are always at your service to help you develop new or improved Butyl applications. Enjay technical literature is among the finest in the industry. For your free copy of Bulletin 012 on new Butyl Latex, write to Enjay, 15 West 51st Street, New York 19, New York.

EXCITING NEW PRODUCTS THROUGH PETRO-CHEMISTRY

ENJAY CHEMICAL COMPANY

A DIVISION OF HUMBLE OIL & REFINING COMPANY

ENJAY® BUTYL

POLYESTER FOAM BY

GENERAL
FOAM
CORP.

QUALITY CONTROL IS HERE

• WARM WITHOUT EXCESSIVE WEIGHT
• DRY CLEANABLE • NON-ALLERGENIC
• SHAPE RETAINING, OPEN CELLED—ALLOWS "BREATHING"

Our reputation is our most precious asset. The polyester foam products you purchase from us are the best you can buy—whether you favor fusion or "wet" adhesion laminating methods. And, most important, you pay no price premium. We have dedicated all our resources and efforts to becoming **the best.** And we are!

From any point of view, our foam products are the finest available . . . the longest lengths . . . all popular widths . . . controlled thickness to plus or minus .007". . . scientifically controlled performance qualities. All this, plus personalized service focused on your individual needs—and sensible prices.

We have one claim to fame. We Don't Make The Most Expensive Polyester Foams On The Market . . . Only The Finest!

WRITE, WIRE OR PHONE FOR COMPLETE DETAILS

640 West 134th Street, New York 31, N.Y. • FOundation 8-9400

GFC GENERAL FOAM CORP.
FOAM IN ANY FORM

modern textiles magazine

september 1961

growth in textiles

opportunities

a special section updating you on

fabric foam laminates

woven stretch fabrics

bulked and textured yarns

circular knitting trends

and other recent developments pointing towards new textile markets and improved profits

the importance of double knits

LAMINATES

What they are; how they are made; Their expanding uses and bright future

By A. J. Callahan*

ALL THROUGH the apparel industry, enthusiasm has constantly increased for laminates until today they are acknowledged as one of the most promising advances toward weightless warmth and fabric stability so far developed. Coupled with this eagerness, there has also arisen, on the part of many, an attitude of "let's wait and see if this really works."

At the inception of what is proving to be a remarkably successful fall-winter season throughout a wide area of the apparel industry, the time has come to answer some of the questions most frequently asked, to allay fears that we think have been created unnecessarily about the mechanics of lamination, and to attempt to clear up some of the misconceptions about foam—what it is and what it can do for fabric.

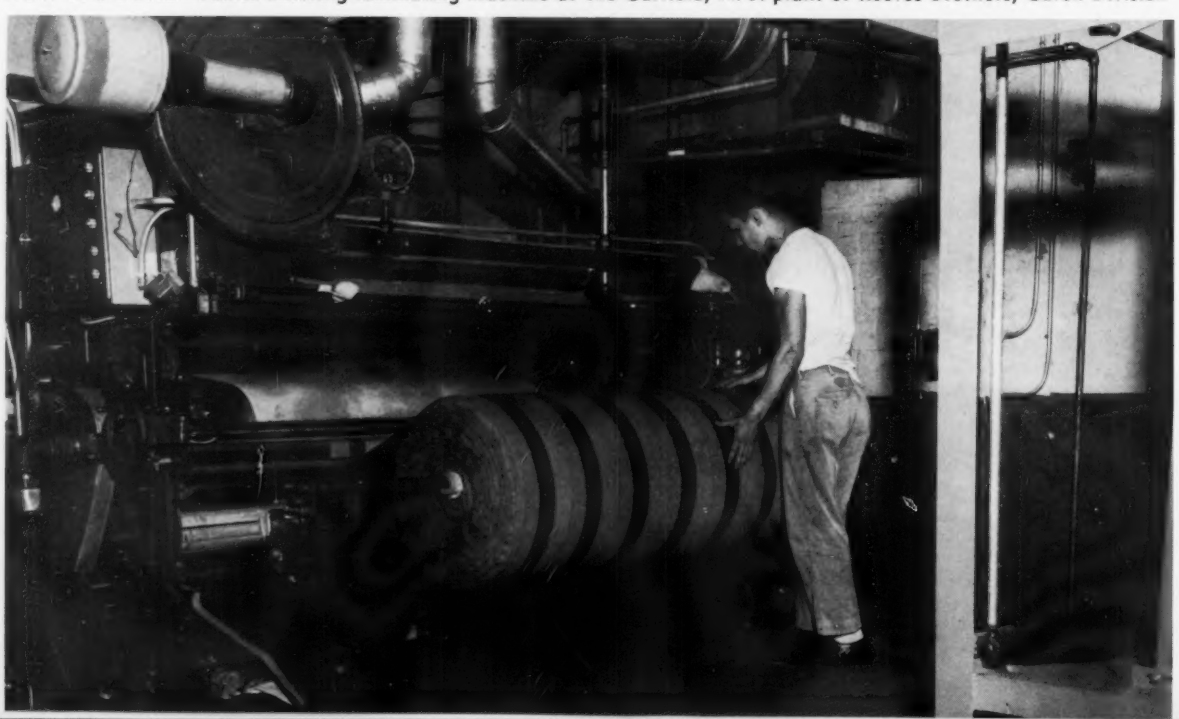
Foam as used in apparel is a polyurethane, a combination of toluene diisocyanate and resins. It is poured as a liquid and rises to a molded loaf shape. The loaf, in turn, is cut to various thicknesses, usually 3/32 of an inch for clothing, and shipped in 100-yard rolls.

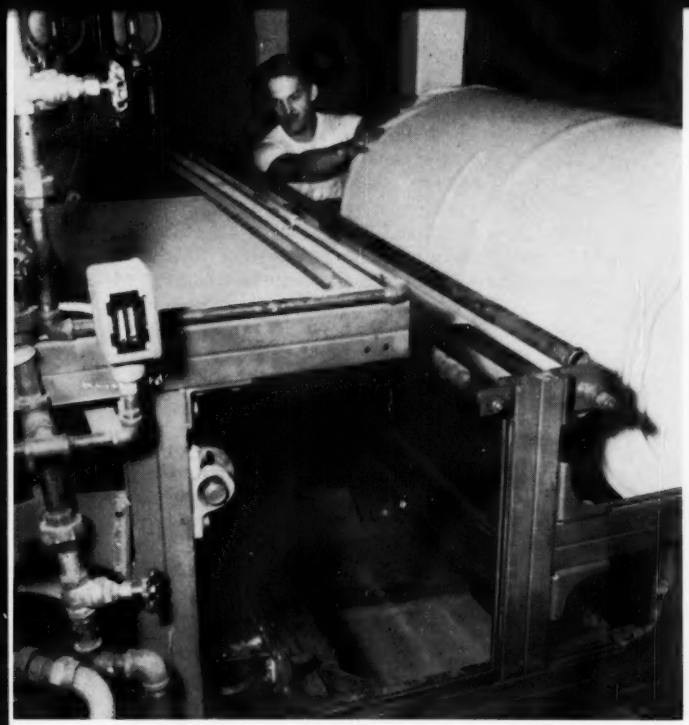
At the integrated mill or commission laminator the foam is applied to fabric by one of two methods—thermal or wet adhesive. Scott Paper Co. makes available to its customers technical information on either method. To date, our knitting mill customers have chosen the thermal or fusion process; our woven mills, the adhesive.

In the fusion process, the ends of the foam strands on the surface of the thin foam sheet are melted over a gas flame to decompose the polymer and to produce spots of a tacky adhesive. These adhesive "globs" are quickly brought into contact with the fabric under controlled pressure and temperature conditions where

* The author is manager of textile sales, Scott Paper Co., a producer of foam for laminating to fabrics.

HOW IT'S DONE—Fabric entering laminating machine at the Garfield, N. J. plant of Reeves Brothers, Curon Division





NECESSARY INGREDIENT—Foam in sheet form entering laminating machine. After being made tacky by direct flame it will be laminated to fabric by pressure rollers

they penetrate the yarn to obtain maximum contact with the fiber filaments. Upon the adhesive's cooling, the "globs" repolymerize to bond the fabric and the foam together.

This process requires modest equipment which can often be developed with a minimum of expense, either by adapting existing plant machinery or by purchasing a basic fusion laminator and making adjustments to fit the individual mill's needs.

Adhesive Lamination

The second method of lamination requires the use of supplemental adhesives. Water emulsion adhesives are most prevalent in the apparel industry today. The adhesive may be applied through printing or roller coating techniques to the surface of either the foam or the fabric. The other layer, fabric or foam without the adhesive, is adhered by pressure. The water of the adhesive is driven off by heat and the adhesive then suitably cured to form the laminate.

Scott technicians are currently developing a simplified adhesive system that will make adhesive lamination suitable for both knitted and woven fabrics.

Preliminary studies show adhesive lamination can compete economically with the fusion method because there is no loss of foam thickness in the adhesive method. In fusion lamination, it is necessary to burn off a significant portion of the foam volume to form the bonding adhesive. This means that the cost of the adhesive is actually included in the cost of the foam.

Fabrics for Lamination

It has been our experience that fabrics should be engineered specifically for lamination. Foam lamination is not a panacea to cut an inventory of unsaleable fabrics. Nor will applying foam to any fabric result in a selling feature in today's foam-conscious market. Not only the fabric, but its mechanical construction, as well as the fiber, and the finish must be considered before lamination is attempted.

Fabrics made from continuous filament yarns are more difficult to laminate than those made from staples or spun fibers. The reason is that more fiber ends are available for bonding in the latter types of fabrics.

The same situation exists in a woven or knitted fabric. In an extremely tight weave or knit, the surface of the fabric has very little open area and the voids are tightly compressed. There is, therefore, only minimum fiber surface area available for adhesive contact, either in the adhesive or thermal method of lamination.

Continuous filament fibers often have a smooth surface and produce a minimum number of fiber ends in a fabric. Woven or knit in a tight stitch, as is used for most lining materials, the resultant fabric is difficult to laminate. It's rather like laminating a piece of glass with very few areas for the adhesive to catch. Cleaning fluids or solvents applied to a foam-fabric package of this type may tend to soften the adhesive which is just laid on the smooth fabric surface, often resulting in delamination between foam and fabric.

An approach to a solution is to open up the fabric construction. Such a fabric presents a vastly increased number of possible bonding points between the adhesive and the yarn fibers and affords opportunity for the adhesive to lock around a filament. This increased mechanical interlocking of the foam to the fibers tends to keep the bond between them permanent even if some softening of the adhesive occurs upon application of dry cleaning solvents.

Aside from the mechanical construction of the fabric and its basic fiber, there is also the finishing operation to consider.

Laminating Finished Fabrics

Certain fabric finishes such as water repellents act as release agents for tacky, gummy, materials like soil, stains, grease, etc. The bonding agents used in foam-fabric lamination can be repelled by these same special finishes with resultant poor lamination. We recommend lamination first, finishing second. However, certain fabrics with repellent finishes have been successfully laminated by an adhesive process.

In addition to a properly designed and controlled laminating process, successful lamination also requires a basic understanding of the physical properties of the fibers, the yarns, the geometric pattern of the woven or knitted fabric and the finishes used.

Consumer Reactions

Having produced a satisfactory laminate, the next most logical question is—can we find a market for our fabrics? Will the garment manufacturers run into consumer and buyer resistance to laminates? The Market Research Department of Scott Paper Co. has checked consumer reactions to laminates. As a case in point, seventeen purchasers of a laminated men's wear coat were interviewed on their experience in the Chestnut Hill, Massachusetts, area. Four of the coats were returned shortly after purchase for reasons which had nothing to do with the laminated aspects of the coat. The remaining purchasers were so enthusiastic that in some cases similar coats were bought by other members of the family and the coat recommended to friends. Those who had worn

the coat were the greatest supporters of lightweight warmth and comfort. The coat proved to be warm enough for winter wear even though the fabric was a lightweight knit jersey formerly used for shirting. Virtually all the claims made for laminates were substantiated—wrinkle resistance, warmth, shape retention, comfort, dry cleanability—by men who had worn the coat all winter.

These are typical user reactions to well designed, well manufactured, laminated garments which reached the market in large quantities this past season. It is reasonable to believe that an enthusiastic market awaits the producer of laminated fabrics, provided he develops his fabric with care and judgment and for a specific outerwear purpose.

Future of Laminates

We have established, and manufacturers and consumers have accepted the fact, that laminates are more than a gimmick—they are here to stay. Now, where do we go from here? We have effectively penetrated the men's outerwear and women's coat industry with what could be considered a limited variety of laminated fabrics.

Cooperation among Scott Paper Co. as a producer of foam, chemical companies as manufacturers of man-made fibers, and fabric mills as producers of the new fabrics for lamination has gained the interest of volume apparel manufacturers.

The children's market has barely been scratched. As more and more women buy laminated coats and sportswear for themselves, we feel that in time they will relate their own comfort from warmth without weight to their children's comfort, and demand the same for them. The day is coming when children's clothes will be as lightweight as their parents'. Children's laminated clothes will include school and dress coats for boys and girls, snowsuits, play clothes and sleepwear.

As with every other facet of the industry, though, first the right fabrics must be developed—fabrics that will withstand the wear and tear of the younger generation. And this statement brings us back to our original point of fabrics developed for specific end uses.

Work clothing is another end use for laminates on which development has already started. The same rugged fabrics that are good for children's wear are finding a market here. In addition to garments designed for the work clothing market, we expect laminated fabrics will be used successfully in men's shirts, pants, topcoats with water repellent finishes and even more active and suburban sports wear.

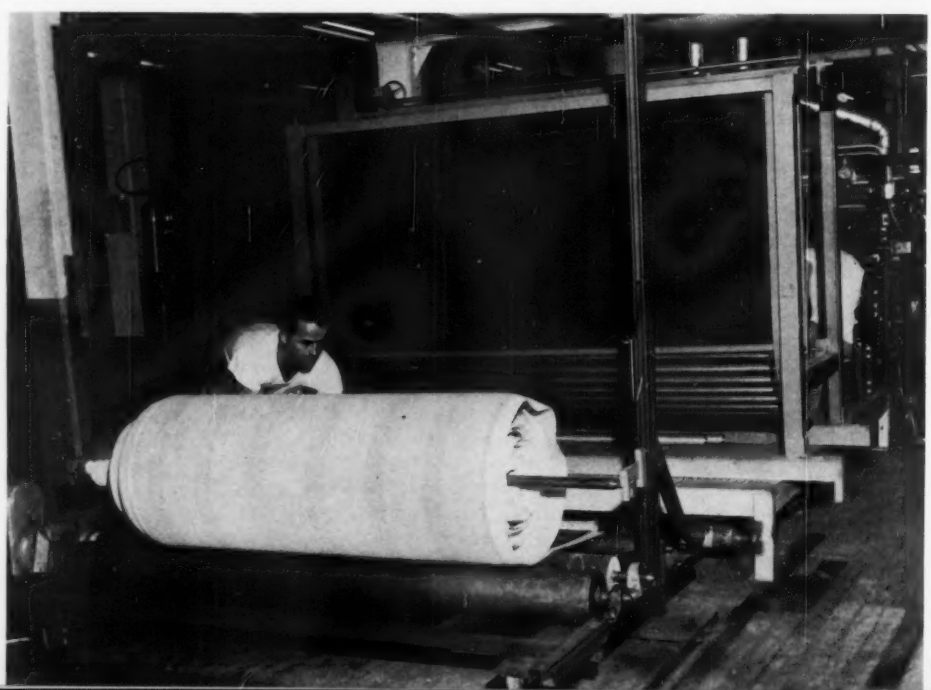
In women's wear, where styling so often depends on fabrication, there is an opportunity for high-priced style fabrics for the upper end of the industry. There is also need for less expensive laminate fabrics specifically designed for medium-priced coats and rainwear.

There are few limits to the types of fabrics which can be developed for lamination. And, consequently, there are few limits to the styling and design which can be developed from these fabrics. With the improved hand and drapeability of Scott Apparel Foam, we envisage many uses for foam, which have only been touched upon so far.

One of the newest developments has been the laminating of Scott Footwear Foam to leather for shoes to provide a new dimension to leathers to improve their resiliency and comfort. Foam lamination makes practical the use of leathers previously considered too delicate for shoe uppers. Laminated, these leathers stand up under wearability and shape-retention tests.

Another advance in foam developments is printing to be used specifically in garments where the foam is exposed or unlined on one side. Printed foam could be used in lightweight shirts, in children's jackets, in pants, skiwear—in any garment where a lining is not necessary. The beauty of printed foam can match fabric designs or contrast in color and design.

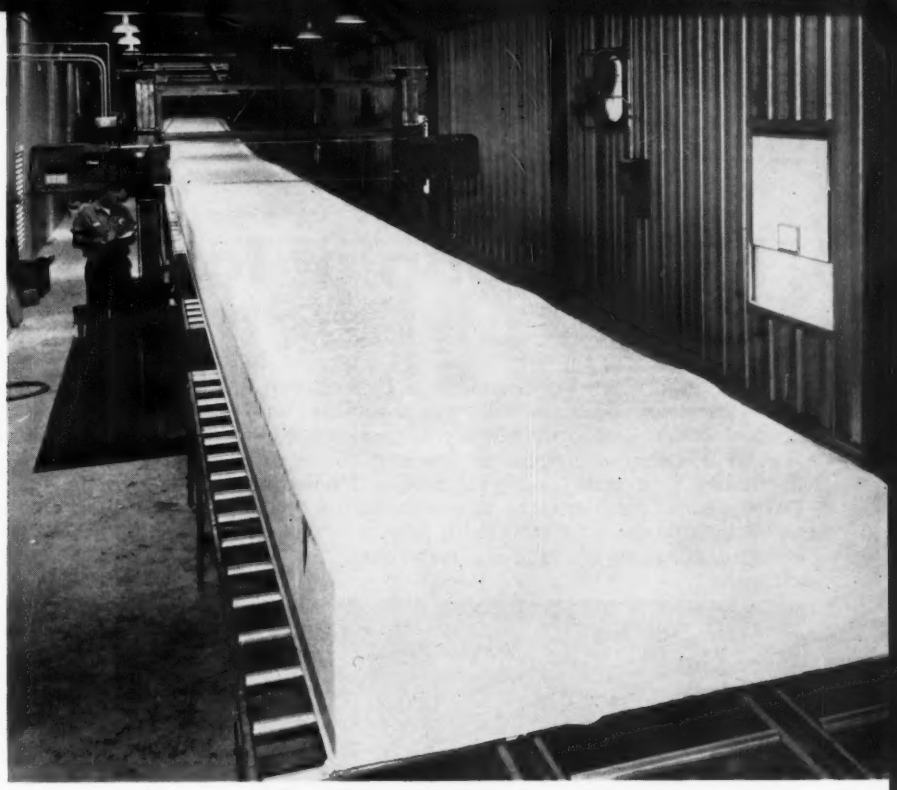
Optimism is the attitude of all involved in the laminating industry. It is expanding; industry quality standards, closely paralleling those of Scott Paper Co.'s for apparel foam, are being set to protect mills, manufacturers, retailers and consumers. Foam is being improved; the problems we had yesterday are being solved; and there is only one way we can go—toward expansion in all phases of the industry, toward development of new fabric ideas and new applications for laminates. ■



READY FOR USE—Here finished fabric-foam laminate is shown being taken up after emerging from laminating machine

Laminates

One firm's answer to rising demand:



Cured foam being cut into "buns" by traveling saw

Improved foams, expanded output

A STRIDE FORWARD for the rapidly growing fabric laminate industry was achieved recently when Nopco Chemical Co., a major producer of foams, announced an extensive program to provide specifications and standardization of its foam products. The new program provides for control of foam thickness, cell size, density, striation, holes and general appearance. Under the quality control system established at Nopco's foam plants, any temporary reduction in quality at any point in the production flow causes a shutdown of the producing or packaging line.

As an example of how the new program works, a Nopco spokesman cited the practices followed at the company's plastics division headquarters in North Arlington, N.J. Foam samples, he said, are taken from the producing line every 15 minutes. From this point they are sent to the physical testing laboratory for testing. Within ten minutes the production line can be stopped or the mixture of ingredients altered if the tests prove that changes are required.

Five major production expansions will be completed this year by Nopco, each centered heavily on foam production for garment interlinings. These expansions include: a third major increase in production facilities at division headquarters operations; a new foaming and fabricating plant at Chattanooga, Tenn.; a similar new facility in the midwest; acquisition of six foam companies in the midwest; Addition of major new plant space for foam fabricating.

These expansions the spokesman said, will help Nopco meet the continuing surge in demand for foams in a race that the entire industry is running to gear up for anticipated demand for hundreds of millions of yards of foams—300 million just for knitted goods, he said, according to recent research and trend studies.

Nopco's activity in foams began in the middle 1950's. It was one of the first companies to experiment with and produce foam for garment interlinings. Since then, demand has necessitated continuing expansions which have included a new plant for the plastics division, and four substantial expansions of its facilities.

The latest expansion is the acquisition of substantial new production area at Kearney, N. J., at the former Congoleum-Nairn plants, solely for large-volume production of peeled goods for garments. These expansions will be augmented by the end of 1961 by the previously noted changes, and early in 1962 the firm's new multi-million dollar toluene diisocyanate plant, at Linden, N. J., will go on-stream to produce the basic foam ingredient.

Tremendous growth has been experienced in the past year in the field of foam interlining for knitted goods. In the near future, Nopco sees enormous growth possibilities in another major area of foam use: children's garments. Here, the market has been virtually untapped and the benefits are most significant, Nopco believes. Use of foam can assure adequate warmth with comfort because of very little added weight or bulk, it is pointed out. The company's recently introduced Insulining is expected to meet the demand in this new market area.

Other new markets, Nopco expects, will open up as the industry experiments and tries new applications. Changes in consumer's thinking habits will evolve, the firm is confident, as more fabric-foam laminates find their way to daily use in apparel. ■

New group of foams offered

AMONG RECENT new developments in the fast-moving fabric-foam laminate field was the recent announcement by Dayco Corp.'s textile products division of a group of improved urethane foams for laminating to a wide variety of fabrics. Known as Dayco Foam Laminates, the new materials are said to be suitable for combining with fabrics by flame-bonding, adhesive and quilting techniques.

LAMINATE IN USE—Wool jersey laminated to Curon foam provides fabric for this new coat

The Dayco line contains all three types of foam laminates made of urethane materials. These include polyester, polyether and a new extra soft open cell type known as Velvet Foam. The latter is said to improve the feel and drape of clothing, and to be especially suitable for laminating sheer or peek-a-boo materials because it eliminates the shine or glisten present in other urethane foams, according to Dayco.

The company also states that its foam laminates, when combined with woven or knit goods, improve thermal qualities and also give a new tailored look to lighter gauge materials. The new foams are also said to improve wrinkle resistance while maintaining the original drape characteristics of the fabric.

Another advantage of the Dayco foams, according to J. O. Cole, vice president of Dayco's textile products division, is that they eliminate center creases in circular knit fine gauge jerseys and tricots while combining easily with certain water-repellent finishes. "These advantages now make possible new styling concepts for materials used for wearing apparel as well as for furniture and auto fabrics," Cole said.

The new materials are available in any thickness from 1/16 of an inch on up; in widths up to 80 inches, and in rolls up to 400 yards with heat seal splices. There are two basic colors, beige and charcoal gray. Other colors are available for quantity orders.

Urethane is made by combining liquid chemicals which foam up to thirty times the original volume. By merely varying the formulations the material can be made soft and flexible or as hard as ivory. The material can also be poured as a solid, non-foaming elastomer which in its flexible form resembles rubber.

New Adhesive Offered

ALSO OF INTEREST in the laminate field was the recent announcement of a new strong water-based adhesive for laminating polyethylene sheeting to burlap. Made by Adhesive Products Corp., under the tradename "Polygriptex", the new adhesive is said to make possible the manufacture of polyethylene-laminated burlap outdoor storage covers which provide good waterproof qualities as well as tear and puncture resistance, protection against dirt and dust and escape of condensation.

Polygriptex is a white, free-flowing compound which can be applied by brush, spray or cementing machine. Only one side wet application of the adhesive is needed to form a permanent bond which is said to withstand extremely high or low temperatures and remain flexible even at sub-zero temperatures. *For further information readers may write the editors.*

TEXTURED YARNS

By W. H. Poisson,
ALLIED CHEMICAL CORP.

THERE IS TODAY no more dynamic, no more promising future to be found in the entire textile industry than in textured yarns. The reason is simple and compelling—it is an economic reason: textured yarns open the way to better products at lower costs.

While the overall concepts of *textured* yarns and *stretch* yarns are similar in many respects and do overlap to a certain extent, this article is confined to a broad appraisal of the future for yarns textured primarily for increased bulk. Some of these thoughts, therefore, may be applicable to, though not necessarily directed at, what lies ahead for stretch yarns as well.

For the purposes of this discussion, textured yarns may be defined as continuous filament synthetic yarns which have been geometrically modified to resemble spun yarns in texture, hand, loft and covering power rather than for the functional value of the stretch.

Purpose of Texturing

The primary purpose of texturizing yarns is to create greater volume for a given weight and to simulate some of the characteristics of spun yarns. Moreover, textured yarns represent important potential economic advantages to knitters and weavers, and they make possible so many additional plus values that the end results can be ultimately *superior* —not merely equivalent to spuns.

Years ago in Switzerland, the source of so many ingenious developments, work on texturing of gummed silk signalled what was to come. With the birth of the first manmade continuous filament yarn, inroads into spun yarns by textured filament yarns became inevitable. Yarn texturing processes are so much simpler than carding and spinning that the only question is when the conversion will take place —not whether it will take place.

There is no stopping this revolution. It is a power play that has many prime factors working in its favor —superior esthetics, economy and performance. Its successful conclusion may be still years off only because of the slow pace of technological progress. A whole new technology in designing, manufacturing and finishing is required, and this will take time.

The textile industry cannot logically stop the trend toward a yarn manufacturing process (texturing) which can achieve in one step results superior to those for which traditional, conventional methods (carding and spinning) require as many as ten steps. Certainly, it is illogical to deliberately cut up continuous synthetic filaments to make staple, which then has to be laboriously and expensively reassembled to form a spun yarn.

Staple spinners are already facing up to the realities: texturing of filament yarns requires far smaller investment in capital equipment and building; the staple route is less productive and requires more labor; and finally, the simplified technology of texturing must eventually result in savings for the consumer—hence greater demand. And there is a bonus —fabrics of textured yarns result in improvements in function and in consumer desirability.

The concept of textured yarns is not new. The concept of loft in spun yarns—particularly in fine woolens—has been recognized by textile technicians for centuries, and many expedients have been used through the years to improve fabric cover.

WOVEN AND TEXTURED—This Masland carpet is woven of textured Caprolan nylon in a velvet construction which combines as many as six colors

Textured Yarns

(Continued from Page 55)

Yet it was not until the idea of texturing was combined with manmade continuous filament yarns that the industry learned how to convert a flat, relatively uninteresting commodity into something that retains all of the advantages and appeal of traditional fabrics while still offering many new, exciting plus factors. From another viewpoint, it was through texturing that unappealing hand and other minus factors of certain synthetic fibers were neutralized, and the full potential was opened up for realization.

The plus factors most apparent in textured yarns—increased cover, better appearance and hand, improved comfort, resistance to pilling, greater durability and evenness—may be thought of simply in terms of definite economic advantage for textile producers and outstanding performance advantage for consumers. Viewed in the broadest dimension, textured yarns make it possible for the textile industry to produce, at lower costs, new fabrics that will outperform the old.

Yarn Cover Increased

When a yarn is textured, its effective denier is increased. This greater cover per pound is perhaps the single most important consideration. The key that is opening more rapid transition to fabrics of textured yarn is the recognition by the textile industry that textured yarns can result in either improved appearance for equal weight or equivalent appearance with less weight.

At the consumer level, the performance advantages of fabrics of textured yarn are so obvious that a trend to ever-increasing demand is already under way. For the consumer in the home, textured yarns mean fabrics that retain all of the esthetic appeal of spun fabrics, but with wider versatility, considerably reduced weight, improved hand and drape, greater comfort through increased moisture adsorption and transmission, dimensional stability after cleaning and the virtual elimination of pilling and fuzzing. For the industrial consumer, textured yarn fabrics mean increased filtering capacity, improved adsorption and greater utility. Such fabrics cannot help but have an unlimited future.

Of course, the future path of textured yarns is not so promising that it consists of opportunity only. There are many problems as well. Principally, these are technological, since a whole new set of processing, styling, manufacturing and finishing techniques is required. It is the rate at which these techniques are developed which will determine the slope of the growth curve of textured yarns.

Most textured yarns are produced today through one (or more) of the following processes:

MECHANICAL PRINCIPLE	FILAMENT GEOMETRY	TYPICAL EXAMPLES
1. Heated knife-edge	Curled	"Agilon"(1)
2. Stuffing box	Crimped	"Textralized"(2)
3. Air-jet	Looped	"Taslan"(3)
4. False-twist/stretched	Random-crimped	"Saaba"(4)

(1) Trademark—Deering Milliken Research Corp.
(2) Trademark—Joseph Bancroft & Sons Co.
(3) Trademark—E. I. du Pont de Nemours & Co.
(4) Trademark—Leesona Corp.

At the present time, only looped yarns can be successfully made from non-thermoplastic filament yarns.

Even though this places a current limitation on variations, new, revolutionary, unsuspected methods of processing undoubtedly will be invented which will open up wider and more exciting horizons than have ever existed for spun yarns. The potential is there, and it is only a matter of time before the promise is fulfilled.

Improvements Continuing

Some of the drawbacks of present-day textured yarn fabrics, such as snagging, fuzzing from abrasion, matting or filament breakage and subsequent pilling are being overcome through improved methods of fiber production and yarn and fabric manufacture. Another depressant on the rate of expansion in textured yarns has been high royalty costs. These premiums can be expected to diminish gradually as production increases, new competition appears and patents run out. But once textured yarn fabrics approach the price levels of spun yarn fabrics, there will be no holding back the inevitable.

Two more problem areas acting as possible dampers on the growth potential for textured yarns are undeveloped technology for intimate blending, and incomplete availability of a number of prototype fibers in filament form. The success of many staple blends, such as polyester and cotton, and polyester and wool, has restricted widespread experimentation with textured yarns.

NYLON TEXTURED by the Ban-Lon process is used in this jersey print dress

The same advantages in the use of textured yarns, however, hold for blends as well as other fabrics. The probable solution will be new fibers possessing in themselves the necessary attributes for a given end-use. Most staple blends are created to combine certain characteristics of different fibers. A better solution is to build all the desirable characteristics into one fiber. This could eventually eliminate the necessity for many, if not all, blends.

It is possible that some of the fibers currently being employed successfully in blends, and which are now available only in staple form, might perform satisfactorily in filament form with proper texturing. Thus far there have been few steps taken in this direction.

Synthetic fiber producers limit their own texturing processes to mass applications. Thus it is the independent throwster on whom the textile industry must depend for the variety, which is the lifeblood of any dynamic commodity. The throwster has, therefore, an obligation to engineer his modifications to assure permanent set and easy processing. He must also provide the most complete technical assistance possible so that weavers and knitters can easily convert the textured yarns into merchantable fabrics. In turn, fabric technologists must work closely with the throwster so that he is properly oriented with properties desired in the end product.

Finally, there is an obligation extending all the way from fiber producer to merchant to avoid the production of substandard merchandise in the change-over from spun yarn fabrics to textured yarn fabrics. Exaggerated claims, poor design, poor quality control or overproduction can easily create public resistance to these new fabrics which might take the industry years to overcome.

Although texturing has been developed mainly with nylon and polyester yarns, there is every reason to assume that the trend away from staple and toward textured continuous filament yarns will continue in all synthetic fiber categories. Exactly the same advantages are to be found, whatever the synthetic fiber involved—lower costs and improved performance—and therefore it is a virtual certainty that in a few years textured yarns will be available in a complete range of fibers.

Wider ranges of fiber products will greatly expand the rapid growth areas. Judging from nylon's experience in the floor covering field, the consumption treadline of a successful textured yarn can be almost vertical.

In 1958, the first commercially successful continuous filament nylon carpet was produced from Allied Chemical Corp.'s Caprolan nylon. During that year the total volume for textured continuous filament nylon in the floor covering industry amounted to a half million pounds. In 1959, three million pounds went into carpets and in 1960, consumption skyrocketed to 18 million pounds. This year, 28 million pounds of textured continuous filament nylon will go into carpets. In the next five years, the figure is expected to reach 60 million pounds.

This experience of the carpet industry—rapid expansion of textured continuous filament yarns not only at the expense of staple synthetic fabrics but of natural yarns in themselves—may well be the pattern for every area where textured yarns make a successful penetration. This, eventually, must spell more than the gradual demise of spun yarns. In the long run it cannot help but mean sharp inroads on all natural fiber markets.

The tremendous impact of textured continuous filament nylon on the floor covering field is only a small indication of what is to come in the whole field of textiles. As more and more textile producers begin to appreciate the economies possible; as textile technologists develop new and better methods of capitalizing on the versatility potential; as consumers begin to recognize and to demand textured yarns for their great ability to perform, the field cannot help but grow at a rate unmatched in textile history.

Textured yarns are adding a new dimension to textile merchandising by pumping in the lifeblood of success— something new, something different, and something better.

Celanese Offers New Textured Acetate Yarn

A new textured filament acetate yarn, tradenamed "Celacrimp", has been developed by Celanese Fibers Co., a division of Celanese Corp. of America. The new yarn has been specially engineered to expand styling and performance of bedspreads. The new fiber is said to be especially successful in producing an heirloom bedspread effect when combined with cotton that creates a series of tone on tone colorings from the whole gamut of combination color cross dyeings that have previously been unobtainable with other fiber combinations.

Concord Mills has recently added "Tara Hall" to their line of heirloom bedspreads woven with this new fiber combination which has a subdued silk-like luster effect with interesting highlights and is available in a wide range of important fashion tone-on-tone shades.

Outstanding performance qualities inherent in bedspreads woven with Celacrimp include its excellent retention of original appearance on repeated washings because the texture is permanently built into the yarn. Celacrimp offers an improved uniform quality to the structure of heirloom type bedspreads in that it minimizes the problem of linting, fuzzing, snagging and pulling after launderings, Celacrimp's lofty texture is resilient and tends to resist crushing.

THE HEIRLOOM LOOK is given this bedspread of Concord Mills by Celanese's new textured acetate yarn

The promise of WOVEN STRETCH fabrics

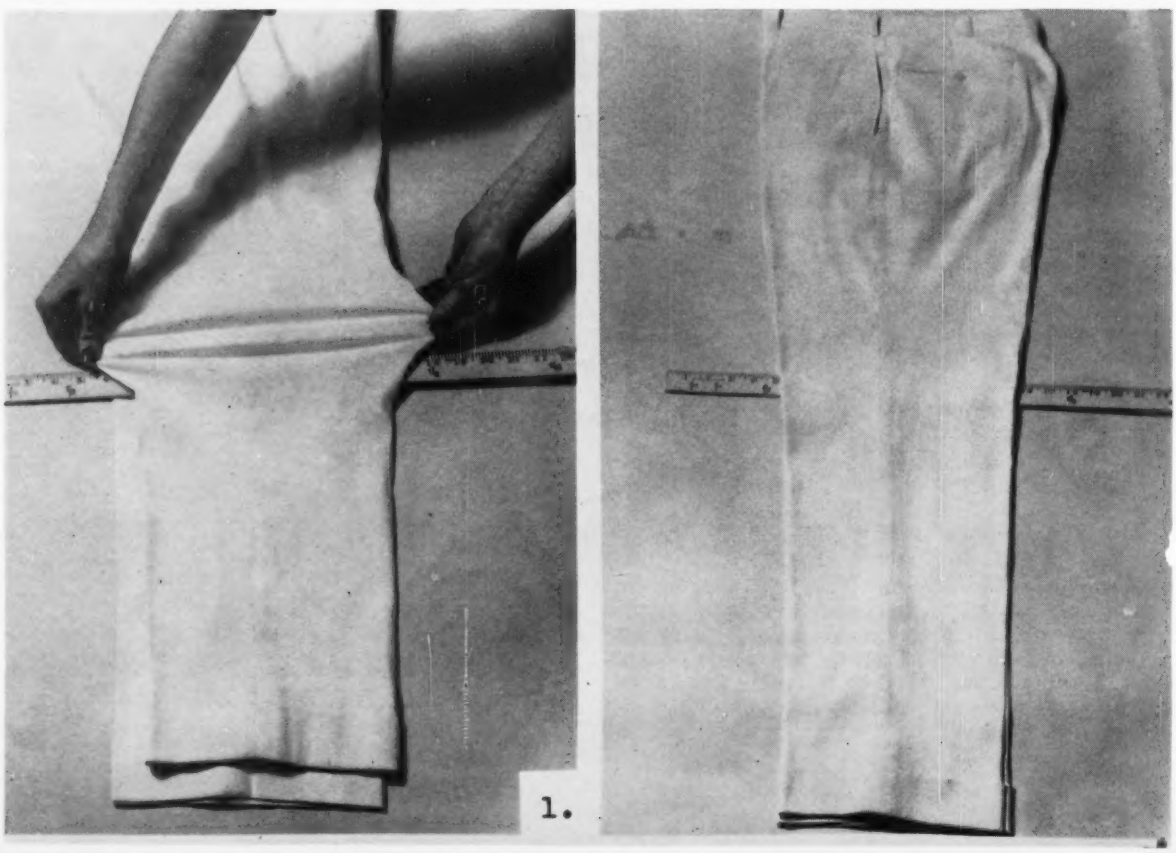
By J. A. Martini,
THE DUPLAN CORP.

BACK IN 1951, a preliminary investigation was made in the United States with regard to the potential use of stretch yarns in woven fabrics. Some observations made then are pertinent today. One of these was that the use of Helanca stretch nylon in warps would grow and would give unlimited design opportunities in stretch type fabrics. It was predicted that looms of various widths would be used since, in most fabrics, only a one way stretch would be required, and the filling would be a non-elastic yarn such as cotton, wool or one of the synthetics.

In the ten intervening years, most of the work done by the European and American designers in the field of stretch fabrics has confirmed the above. However, designers found stretch nylon to be such a useful tool that many fabrics were designed with stretch filling and a few fabrics employ stretch nylon in the warp and filling. Starting with a single end use back in 1952 when Willy Bogner introduced stretch nylon pants for ski wear, the use of stretch nylon in woven fabrics has expanded and it is now being used for fabrics for the following end uses:

Slacks—Casual and active sportswear.
Jackets—Lightweight and heavyweight.
Shirts—Bowling, skeet shooting.
Shorts—Beachwear—Walking shorts—Pedal pushers.
Skirts—Culottes—Dresses.
Uniforms—Military and others.

ROOM TO EXPAND is provided by these woven Chemstrand nylon stretch slacks. Photo on left shows slacks stretched 2¾ inches beyond their tailored width. Right hand photo shows slacks returned to original dimensions when released



Tailored tight fitting garments for home entertaining.
Maternity Dresses—Diaper fabric.
Children's Wear—Snow suits.
Slip Covers—Automotive.
Contour Sheeting—Mattress covers.
Gloves and Lingerie.
Swimwear.
Foam backed for various apparel uses both stretch warp and stretch filling.

The above list will be expanded in the years ahead as designers put stretch nylon yarns to work in industrial fabrics and home furnishings fabrics. Experiments now being made indicate possibilities in corduroys and velvets. The profit potentials in properly styled and soundly merchandised woven stretch fabrics are tremendous and we believe this development to be one of the great new opportunities in textiles.

Yarns

Most of the early stretch nylon fabrics, both here and in Europe, were made with conventionally thrown Helanca SP yarns. The most successful fabrics were those employing a 2x70 denier stretch nylon warp. In Europe the 70 denier used had 23 filaments and here we used 70 denier with 34 filaments in our early work. The two ply yarn combined one end of "S" and one end of "Z" torque, both of which were prepared by twisting, heat setting and untwisting, with conventional spinning equipment. Final twists in the single ends and in the ply were predetermined to make a balanced or unbalanced yarn. Twists ranged from a 7-7-7 construction to an 18-18-18 construction.

With the development of false twist machinery, whereby stretch nylon is made by twisting, heat setting and untwisting in one continuous operation, designers began exploring the use of 70 denier yarns having 20 or 17 or 13 filaments. The single end and ply twists ranged from an 0-0-3 construction to a 12-12-12 construction, again with balanced or unbalanced properties.

In addition to the 70 denier yarn with the various filament counts we now see designers using stretch nylon in many denier sizes. Stretch fabrics are being made with yarn descriptions ranging from 2x40 nylon to 2x200 nylon.

The finer deniers are intended for blouse weight or lingerie type fabrics. The heavier deniers are employed in conjunction with wool or cotton for outerwear pants and slacks.

Yarns intended for weaving end uses are specially prepared and must meet standards for uniformity and crimp retentivity much higher than those set for knitting yarns. Throwsters have learned that extra tests must be performed on stretch weaving yarns to insure a consistent high level of quality.

Warp Stretch

Over the past five or six years several abortive attempts were made by weavers in America to produce stretch warp fabrics. Short warps were prepared, using yarns not particularly suited for weaving. Added to this we had little know-how in finishing. Results ranged from poor to fair until the Heberlein Patent Corp. stepped in and worked out yarn specifications with throwsters here in America and arranged for the weaving and finishing of good prototype fabrics. The fabrics produced by this early work stimulated the converters and cutters and active work on stretch fabrics was started by several weavers. Today we have a number of fabrics on the market in the stretch warp category. High style garments made with stretch nylon are being promoted and sold in good volume.

As noted above yarn sizes in woven stretch fabrics may range from 2x40 to 2x200 nylon. However, since most warp stretch European fabrics were made with a 2x70 yarn, our prototypes at Duplan were designed to make use of similar yarn constructions. Work done by the yarn producers such as Du Pont and Chemstrand followed this same pattern. As a result most of the stretch warp fabrics on the market today are made with a 2x70 nylon. Currently the following 70 denier yarns are available for stretch warps:

2x70/20 S.D. Nylon
2x70/17 S.D. Nylon
2x70/17 Colorsealed Nylon
2x70/16 S.D. Nylon
2x70/13 S.D. Nylon

The selection of the filament count and the determination of the twist level in the single end or ply twist are important factors. Each must be arrived at after considering the specific end use and it is recommended that weavers make inquiries through the throwsters with regards to the above to obtain the optimum yarn from the point of view of performance and cost.

Warp Stretch Construction

Using a 2x70 Nylon stretch yarn the sley may range from 100 to 170. The exact sley count will be determined by the weight of fabric wanted and by the fabric design. Here are some constructions for reference:

120 x 74 —Rib Fabric
Filling —200/250 Duppioni
46" Reed. 44" Finished

120 x 56 —Denim
Filling —18/1 Carded Cotton
46" Reed. 44" Finished

168 x 72 —Twill
Filling —20/60 Acrylic
52" Reed. 50¼" Finished

168 x 74 —Twill
Filling —2/36 Worsted
52" Reed. 50¼" Finished

Warping

Warping can be done on the silk system, making sections of 500 to 600 ends, or by the direct warping system if creel capacity is available, or by beaming and warping. Tension on the yarn should be sufficient to straighten out the yarn. It should resemble a filament yarn rather than a bulked or textured yarn as it goes on the beam. Good warps have been made, at various levels of tension, between 10 and 20 grams on 2x70 constructions.

As a general rule, we do not recommend sizing of stretch nylon warps. The combination of wet size, heated cans, and tension may combine to reduce the stretch properties of the yarn, if these factors are not controlled properly. This is particularly true of the false twist type yarns. We have seen stretch warps ruined due to high tensioning of the wet sized yarn. At the moment the advantages outweigh the disadvantages in favor of non-sized warps.

As to selvages, we suggest the use of stretch yarns to eliminate the puckering which occurs if non stretch yarns are used. For twill fabrics, the selvage can be made so that the twill line is reversed. For best results, a selvage width of ⅜" is recommended.

(Continued on Page 60)

(Continued from Page 59)

When starting production on a warp stretch fabric, a simple hand scouring test will give preliminary data as to what can be expected from the fabric. We usually weave a few yards, with various pickages and then stop the loom while these head ends are being scoured. After drying, either in an oven or in a tumble dryer, the fabric should stretch 40% or more. Picks can be increased or decreased based on this quick test. Also, at this point the warp can be reeded out, if the fabric is tight, or narrowed down if the fabric slips or appears sleazy.

Weaving

With stretch nylon warps we have had less difficulty than with stretch filling. Warps have been entered and run without loom stops or trouble of any kind. Properly made warps, combined with good selvage design lead to good weaving with stretch yarns as with other yarns.

Finishing

A good deal of the trouble with our early fabrics was traceable to overstretching the fabric. Excessive tension applied to the hot wet fabric tended to kill the stretch. Today these factors are known and finishers realize that the stretch in a stretch fabric is something that must be developed and handled with care. Optimum conditions today would include the use of open width scouring devices (Hinnekens type) beck dyeing (with the speed reduced to minimize chafing) air-lay or loop dryers, and overfeed tentering frames. Where Hinnekens type open width machines are not available scouring is being done on becks with good results. Finished goods should be put up on rolls with minimum tension.

Stretch Filling

In the field of stretch filled fabrics a good deal of the early development work was done by the technicians associated with Leesona Corp. and the ARCT organization represented in the U.S. by Whitin Machine Works, Whitinsville, Mass. These producers of false twist machinery, working with the throwster technicians spent many months evaluating yarns, particularly in cotton warps. Thousands of yards of experimental fabric were woven and finished to help establish present day weaving and finishing techniques.

As in the case of warp stretch fabrics the choice of yarns ranged from 2x40 to 2x200. Most of the work was done with 2x70 nylon stretch in such fabrics as Bedford cords, random cord, oxford, twills and sateens. For heavier fabrics such as denims and corduroys a 4x70 construction is preferred. The selection of the yarn to be used will be determined by the type of fabric and the amount of stretch and recovery wanted, just as in the case of warp stretch fabrics.

Quilling and Shuttle Tensions

It became apparent early that quilling tensions and shuttle tensions were critical. Excessive tensions tended to create changes in fabric stretch—the most pronounced coming from the variation between a full and an empty quill if the quilling tension had been too high. For a 2x70 nylon stretch the quilling tension should be between 10 and 15 grams. The shuttle tension at 6 to 8 grams produces satisfactory results. Shuttles should be specially furred for stretch yarns with the fur clipped to minimize tension build up when the quill is running empty.

Selvages also must be designed correctly. Many early fabrics were unacceptable due to selvages which rolled over three or four times during scouring and dyeing. Selvage design should be such that the warp ends are loose and have room to float. Tight selvages are to be avoided, otherwise the goods must be tacked for dyeing, thus adding to the cost of finishing.

Cord Fabric Constructions

Since filling stretch fabrics shrink in width during finishing, it is desirable to use wide looms for this type of fabric. Here are constructions of a few of the cord type fabrics now on the market:

Warp	—40/1 Combed Cotton
Filling	—2x70/34 Nylon Stretch
	96 x 78
67" Reed	—47" Finished
Warp	—40/1 Combed Cotton
Filling	—2x70/34 Nylon Stretch
	104 x 78
63" Reed	—44" Finished

Head ends should be made up with various pickages and boiled off, similar to the procedure outlined for warp stretch, to obtain preliminary data. A stretch of between 25 and 30% at this point indicates good potential stretch in the finished fabric. To achieve maximum stretch the yarn must be given a chance to contract during finishing. Optimum contraction takes place when the fabric design provides for filling floats. However, if the floats are too long the fabric may tend to pill so that a balance must be worked out between float length and the pilling factor.

STRETCH GABARDINE woven of Du Pont 288 nylon and Orlon is the fabric for these leisure time pants

Warp faced fabrics such as cords and sateens or gabardines are being produced in good quality. Warp faced fabrics are preferred since these will tend to minimize variations in dye affinity which may show up in the stretch filling. To reduce to a minimum any variations which might be present some weavers are using box looms. Where box looms are not available, Unifil Loom Winders are recommended.

Finishing for Filling Stretch

Just as with warp stretch fabrics it was necessary to develop new processing techniques to finish filling stretch fabrics. The integrated mills, weaving fabrics with spun rayon, cotton or wool warps were able to use their own finishing plants and developed techniques based on existing equipment. Commercial finishers, working with various weavers, and assisted by specialists, developed other techniques. An outline of the basic steps would include the following for cotton warp—stretch nylon filled fabrics. Treat the goods with a 20% caustic soda solution, padding it on a jig, then squeeze, rinse and neutralize by treating with bicarbonate and a final run through weak acetic acid followed by vacuum extraction, bleaching, rinsing, another scouring and then dyeing. Goods are being dyed with commercially fast direct and disperse colors in becks, or with vat colors on a vat range. Where vat colors are used on the cotton, the goods are moved to a beck for dyeing of the nylon. Drying is best done on an air-lay or loop dryer at temperatures not exceeding 250°. The goods are run through a cold tenter to staighten them out then heat set at 400°F.

Modification of the above, based on the nature of the fibers used, and based on the equipment at hand, are in effect today. Finishing of stretch filled fabrics is on a production basis in a number of plants at the present time.

Today there is a reservoir of knowledge in yarn processing, weaving, finishing, converting and merchandising to assure a steady growth in the use of stretch yarns in stretch type and textured type fabrics. The success of the 100% textured Du Pont Dacron polyester fabric for blouses is well known. Other similar fabrics, making use of stretch nylon or stretch Dacron, to achieve surface interest are in production also. However, as we see it, there is an unmistakable trend toward the use of these yarns to provide stretch and fit and comfort, in addition to the surface interest. From fine shirtings to heavy denims, from satins to shantungs and in jacquards, crepes and velvets, the use of stretch nylon and stretch Dacron is on the increase.

Extensive and radical changes are taking place in the design of the above fabrics. Colorsealed and dyed stretch yarns are being used to create unusual patterns. Stretch properties of the various polyamides, polyesters and acrylics are being explored for possible use in combinations.

With all these exciting developments going on in yarns and fabrics, a logical question would be "Just how deep will stretch fabrics penetrate into established markets?". Estimates for apparel fabrics range from 10% to 50% by 1965. The actual amount will be determined to a great extent by the promotional and advertising activity on the part of primary yarn producers, machinery manufacturers, throwsters, weavers and converters. As the use of stretch fabrics expands in the apparel field, we can expect good penetration in home furnishings and industrial end uses.

The consumer spending pattern will be influenced by such factors as styling of the item in question, by the amount of disposable income and by functional value. Of one fact we can be certain: for those who offer the consuming public a useful stretch item at a realistic price, there are unlimited profit opportunities.

Stretch Fabrics Boom Predicted

AN EVER-INCREASING use of stretch fabrics in sportswear was foreseen today by Montgomery Ward and United States Rubber Co. Carl Klech, buyer of catalogue merchandise for Montgomery Ward, said his company's fall and winter catalogue features for the first time slacks and skirts made of stretch fabrics. About six million copies of the catalogue were mailed on July 1.

"Since their introduction to America early this year," Klech said, "stretch fabrics have become one of the biggest things ever to hit the sportswear industry. "Everyone in the trade will be handling stretch fabrics this fall because the fabrics can be made into trim, neat and crisp-looking slacks and skirts."

The fabrics are manufactured by the textile division of United States Rubber Co. and sold through the Franklin Manufacturing Co., selling agent for U.S. Royal textiles. Recently, the rubber company announced it had tripled the number of looms producing stretch fabrics at its Winnsboro, S. C., plant to meet the demands of the market. The stretch fabrics used in the skirts will be plain; in the slacks, both plain and pattern.

RECENT ADVANCES in fibers, fabrics and apparel are exemplified in the coats of this couple. His jacket is knitted nylon with a sueded finish laminated to Scott apparel foam. Her raincoat is waterproofed cotton also laminated with Scott foam

Growth Opportunities in Textiles

The expanding world of

CIRCULAR KNITTING

IN THE OVERALL TEXTILE picture today no area offers more promise of growth than circular knitting. So rapid and far-reaching has been the expansion in circular knitting that many large mills up till now solely devoted to woven goods are acquiring circular knitting capacity or seriously studying moves in this direction.

The sharpened interest in the potential of circular knitting among weavers is understandable when it is noted that in 1959, the last year for which figures are available, circular knitters of yard goods for outerwear purposes produced 85 million pounds of cloth with a value estimated at $150 million. By way of contrast, output of circular knit yard goods for outerwear at the beginning of the postwar period totalled less than 30 million pounds with a dollar value of $45 million.

In the past ten years or so, circular knitted yard goods have been finding increased acceptance in apparel for both men and women in dresses and a wide variety of sports and leisure wear. The development of improved finishing techniques providing stabilization of knitted fabrics, the burgeoning popularity of high fashion knit goods, the steadily enlarging utilization of such new fibers as nylon and the acrylics have all added impetus to the growing importance of circular knits. Of equal significance in this trend has been the improvement in the productive capacity of knitting machines as well as the ability of such machines to turn out a broadening variety of patterned and colored yarn fabrics.

Among the many reasons for the growth of interest in circular knitted fabrics, the basic advantages of knit cloths cannot be overlooked. Knitted fabrics, as it has been pointed out by Victor J. Lombardi, of Scott & Williams, Inc., a leading maker of circular knitting machines, "can rightly be regarded as universal in character for they can be produced with desirable features of elasticity or stability in an infinite variety of surface textures and pattern effects."

In some constructions, Lombardi pointed out, knitted cloths bear strong similarity to the better types of woven goods while retaining the warmth, draping qualities and eye-appeal characteristic of knitted constructions. Of equal importance, Lombardi said, a knitting operation, when compared to weaving, demonstrates impressive economies in capital expenditure. Lombardi noted also that knitting, when compared to weaving, is more efficient, more productive, and "lends itself to a more rapid translation of

The Importance of Double Knits

APPEAL OF DOUBLE KNITS is brought home by this figure-flattering dress and jacket of double knit jersey from Fair-Tex Mills

ideas, patterns and textures into actual fabric." He made the further point that weavers who are accustomed to thinking in terms of days with regard to yarn and pattern changes, "are quite understandably impressed when they are told these changes can be accomplished in minutes" when dealing with knitting machines.

In the past year or two, the growth of the importance of knitted fabrics produced on circular machines has been enhanced by the mushrooming acceptance of double knit jersey fabrics in womenswear. Double knits, in the opinion of many, are taking their place as a new group of staple fabrics with virtually limitless possibilities for the future.

With all this emphasis on knitting and the increasing awareness of the growth and profit possibilities in circular knitting particularly, it is no wonder then that so many big multi-plant fabric manufacturers, hitherto confined to the production of woven goods, are moving into knitting as fast as they can. Major developments in this regard in the past few years were the acquisition of Princeton Knitting Mills by Burlington Industries, the movement into knitting of M. Lowenstein & Sons, and the acquisition of knitting machines by such a large, well-established converter as Reliable Textile Co.

The enlarged interest in circular knitting currently prevalent in the textile industry was amply demonstrated last April at the big Knitting Arts Exhibition in Atlantic City. A wide variety of new and improved circular knitting machines were on display. Interest in them among visitors to the show, many representing weaving outfits, was notable for its keenness and thoroughness.

The Rise of Double Knits

Throughout textiles today, the mounting excitement over the possibilities for growth and satisfactory profits in circular knitting is focussed on double knits more than on any other range of fabric constructions. What are double knits? A doube knit, broadly defined, is a jersey construction knitted on a machine equipped with two sets of needles so that, in effect, the cloth is a "twice knitted" fabric in which, by the action of the double set of needles, the two sides of the cloth are interlocked. The resulting fabric is heavier than single-knit cloth; one surface has a fine fibbed appearance, and the reverse the texture of a fine birdseye or diamond effect. The heavier, double knit construction makes the fabric more dimensionally stable than plain jersey and permits it to be cut without curling on the edges.

Some double knits are plain fabrics in solid colors, while others in this family of circular knit cloths are made with textured surface "blister" effects. Still other variations of double knit, produced on circular jacquard knitters, are made in a variety of attractive designs and figures in a wide range of colors.

To sum up the attractions of double knits, they can be said to have all the advantages of knitted cloths—drape, elasticity, and surface texture—plus some of the advantages of woven cloth in the way of dimensional stability, durability in wear, freedom from excessive stretching and "bagging" in garments, ease of cutting and sewing, and enough weight and body for them to be used in dresses, skirts and other fashion apparel without need for lining.

Although so far the great majority of double knits to be offered to garment manufacturers have been all-wool in fiber content, attractive and variegated double knits are available in cotton, and more recently in synthetics. According to James M. Blore, knitting technologist now with Deering Milliken in its new venture into circular knitting, many double jersey fabrics can be produced by switching from the natural fiber to the manmade fiber with no change in stitch or yarn count. "In many cases," Blore noted in a talk last spring before the National Knitted Outerwear Association," the properties of the manmade fiber are used advantageously to impart some additional qualities to the fabric."

ACRYLICS ARE IMPORTANT in double knits. This three-piece outfit is made of fabrics double knit of 100% Du Pont Orlon acrylic fiber. Plaid cardigan jacket reveals patterning scope of double knit constructions

Acrylic yarns and blends, he said, supply double jersey fabrics with excellent wash-wear properties. Textured filament yarns provide smooth light weight fabrics for dresswear; elastomers are knitted into the fabrics to build good elasticity with little increase in weight. "Opportunities are seen for the use of high-shrink or high-bulk acrylics to improve the dimensional stability of the fabrics for coatings." Blore further noted that most acrylic fibers are knitted in the 100% form, but blends of the acrylic fiber with cotton or wool are also finding favor among knitters.

Amid all the enthusiasm for double knits and their potential as a basic cloth for the future of textiles and apparel in the United States, many garment manufacturers and retailers are asking: "Where specifically can double knits be used today?" This question has been answered by Ben Heller, president of William Heller, Inc., one of the first knitting firms to come out strongly for double knits. "Double knits," Heller stated recently, "can be used in almost every segment of the apparel trade. Dresses, suits and three piece costumes are superb in double knits. For little girls and teen-agers there are sweaters, vestees, two-piece dresses and more. In fact the only limit to the use of double knits is the span of our imagination." ■

PAPER YARN PROGRESS

THE POTENTIAL in fabrics knitted from paper yarns has been once more brought to the attention of the textile industry by a new machine developed by R. H. Marks, president of Enterprise Inc., of Dallas, Texas. According to reports in the trade the new Marks device combines a paper slitting operation with an operation for twisting the slit paper into yarns.

The device is said to work in this fashion: a roll of paper is placed above a twisting machine. A bank of circular blades slits the paper as it unrolls into any wanted width between 3/64 of an inch and 3/4 of an inch. The slitted paper then moves through a waxy chemical solution to be twisted and wound on bobbins. A major advantage of the Marks machine, it is said, is that it combines into one operation the slitting and twisting which on other systems of making paper yarns was a two-stage process.

The Marks development has heightened interest in the knitting of paper yarns for such purposes as carpet backing and other utility uses. Scott & Williams, Inc., Laconia, N.H. maker of circular knitting machines, is currently offering its UFM (Universal Fabric Machine), a knitter with specially designed capabilities for knitting paper yarns. In addition to use as carpet backing, paper yarns are envisaged by many as being a cheaper substitute for jute and cotton in bagging and other industrial fabrics. It is reported that a number of mills, including Cone Mills Corp., and Dan River Mills, have been licensed by Marks to undertake development work in fabrics made from yarns slit with his machine.

Last month it was announced by Whitin Machine Works that it had been licensed by Marks to conduct research and development on the Marks system for the slitting and twisting of paper and other materials in film form. Equipment for the Marks slitting-twisting process will be available from Whitin to the mills licensed by Marks.

Whitin Gets Marks License

In commenting on the agreement, J. Hugh Bolton, Whitin president said: "Whitin, for many years has manufactured an extensive line of twisters of all kinds for cotton, wool, worsted, synthetics and glass as well as paper, and has acquired broad experience in the field. However, the concept of mounting a slitter on a twister, to permit twisting of finer yarns from paper or other sheet-form materials, has recently been made more feasible through developments by Ronald Marks, President of Enterprise, Inc. The licensing of Whitin for experimental use of the Marks process will open the way for us to apply our substantial research and development facilities to the further development of slitted and twisted materials and end products."

In the implementation of its research work, Whitin will be working in close cooperation with several of the large, nationally known paper companies. Under the terms of the agreement, Whitin is sending a twister to Enterprise, Inc., and a Marks slitter has been installed in the Whitin Research and Development Division. In this way, both companies may carry ease. The process is tradenamed "Curon E-Z". *For further information write the editors.*

Machine Knits Paper Yarns

Possibilities of increased profits in the production of paper yarn fabrics have been enhanced recently by the availability of a knitting machine especially designed for knitting both paper scrim and carpet backing. Made by Tompkins Brothers Co., Inc., of 623 Oneida St., Syracuse, N. Y., this circular latched needle jersey machine comes in two models, one 70 inches in diameter and the other 54 inches. The wider machine makes carpet, carpet backing and scrim fabrics 15 feet wide. The smaller machine knits these fabrics in 12 feet widths.

New Laminating Method

What is described as an entirely new method of laminating polyurethane foam to fabrics, papers and plastic films has been developed by Sterling Alderfer Co., Akron, Ohio. According to Alderfer the new method will result in a 40% savings in labor costs.

As reported to MODERN TEXTILES, the method simultaneously bonds the foam to the rolls of fabric or other base material as the foam is skived in continuous yardage lengths from the foam log. Immediate bonding is said to give the resultant laminate strength that provides for easier handling while making possible the use of lighter and thinner layers of foam.

Alderfer states that it is thus possible to get as much as 33% more length out of a log of foam than by fusing methods. Full rolls of foam-backed materials up to 36 inches in diameter can be produced with any thickness of foam down to 30/1000th of an inch.

For further information about this new method, and how it can be used in new applications, readers are invited to write the editors.

Easier Laminate Sewing

A process for post-treatment of laminated fabrics to make them slippery has been developed by Reeves Brothers' Curon Division. The new treatment is said to make Curon laminated fabric easier to sew because they can glide and slide under the plate with ease. The process is tradenamed "Curon E-Z". *For further information write the editors.*

THE COLOR STAYS IN THE FABRIC

Dy-LoK®

IRC's Wonderful, Improved Dyed-In-The-Fiber Rayon

BECAUSE THE COLOR IS LOCKED IN THE FIBER!

Dy-LoK® is the process that lets fabrics laugh at the sun—and the wash-tub! It puts color where it *should* be—*in the fiber instead of on the fabric!* Now the color is where it can't be lured out because *it's locked in!* It's the *most color-fastness* you'll ever know—whether it be the gay, light brights or the quiet, somber darks! Yes, if the fabric is identified as DY-LOK, you can be *sure* the color's in to *stay!*

IRC

INDUSTRIAL RAYON CO.
. . . Now a division of Midland-Ross Corp.
500 FIFTH AVENUE, NEW YORK

Feature DY-LOK on your curtains, drapery and upholstery fabrics. Take advantage of the great, extra sales and buy appeal that the fabulous DY-LOK story can give you! See for yourself the magnificent rayon fabrics available in a wide range of smart, locked-in-the-fiber colors. DY-LOK KEEPS LIFE IN THE FABRIC FOR THE LIFE OF THE FABRIC! Write or phone for the whole wonderful story, now!

What's going to be good for you...for 1962?

New Wovens are going to make news. They'll be of 100% Celanese fibers, or in blends and combinations with the newer high-performing rayons such as Avron, Avril, Avlin, Corval, Zantrel, etc.

Long-Time Favorites will be in even bigger favor . . . batistes, voiles, sheers, poplins, sharkskins, tropicals, cords, crepes, linen-types, seersuckers, shantungs and chambrays. In plain and novelty weaves and patterns in a wide range of colors, weights and finishes. The traditional broadcloths, piques, plaids, checks, flannels, failles, denim-types, taffetas, etc. in even greater volume than previous years.

Knits will continue to be sensational, in the whole range of weights and textures. Glamour knits, including novelty and metallic versions, have great potential.

Get them in production for 1962. They're going to be what leading converters, manufacturers and consumers ask for. They're going to be promoted in depth, bought and sold in volume.

They're going to be good . . . for *you.*

And they'll be even better made with Celanese contemporary fibers: *Celanese acetate*, the beauty fiber; *Arnel triacetate*, the ease-of-care fiber; *Celaperm acetate*, the fiber with "sealed-in" color; *Fortrel polyester*, the fiber that keeps its promise!

Celanese Fibers Company, 522 Fifth Avenue, New York 36 (a division of Celanese Corporation of America) Celanese® Arnel® Celaperm® Fortrel® is a trademark of Fiber Industries, Inc.

Celanese **contemporary fibers**

What is ENKA RAYON fashion yarn?

It's shimmering CREPE...supple, full "bodied," glowing with rich beauty, luxuriating with softness!

It's an airy, light SHEER "45"...a fabric with substance, versatility, good manners and cool as only a modern rayon can be!

It's a kaleidoscope of COLORS...the pale tints of springtime, the inky blacks of summer, the vibrant tones of fall!

It's a PRINT...a jungle of wild flowers, a sophisticated abstract, a geometric, an expression of a textile artist's brush!

It's a TEXTURE...pebbly, tweedy, silklike, damasky, smooth as glass!

It's a SILHOUETTE...the flare, the sheath, the blouson, the middy, the pleat, the drape!

It's PROMOTION...national advertising in top fashion magazines, modern merchandising on a coast to coast basis, publicity in the nation's fashion press!

Modern ENKA RAYON yarn adds more than mere filling to a fabric. It's the look, the touch, the shape of fashion TODAY.

Check on ENKA RAYON yarn now...contact Enka Merchandising in New York at 350 Fifth Avenue, PE 6-2300 or the District Sales Office nearest you.

American ENKA Corporation, Enka, N. C. • Producer of nylon • rayon • yarns • fibers
NEW YORK OFFICE: 350 Fifth Ave., New York 1, N. Y. • DISTRICT SALES OFFICES: Greensboro • Providence • Enka

Remember when Rayon was just Rayon?

Just a few years ago practically everyone knew the characteristics of rayons. But now American Viscose has developed a whole family of rayon fibers to fit special end-use requirements of the textile industry. Avron, Avril, Avlin rayons have so many improved performance characteristics that comparing them to regular rayon is like talking about the difference between a modern car and a covered wagon.

AVRON® rayon is much stronger than regular rayon. Popular blends of polyester fibers and Avron rayon and 50% Avron rayon and Arnel® triacetate are widely used today. For Avron makes possible sheerer, stronger, beautiful looking fabrics with a body and hand that hold onto tailoring details. Avron rayon also improves wash and wear performance, especially in cotton blends.

AVRIL® rayon, the greatest breakthrough in cellulosic chemistry. A stable high-strength rayon fiber which improves wash and wear performance in many natural and synthetic blends. Fabric blends featuring Avril can be preshrunk or mercerized.

AVLIN® multi-cellular rayon, created specifically for blending with other fibers. A new rayon fiber that adds bulk and luster to fabrics.

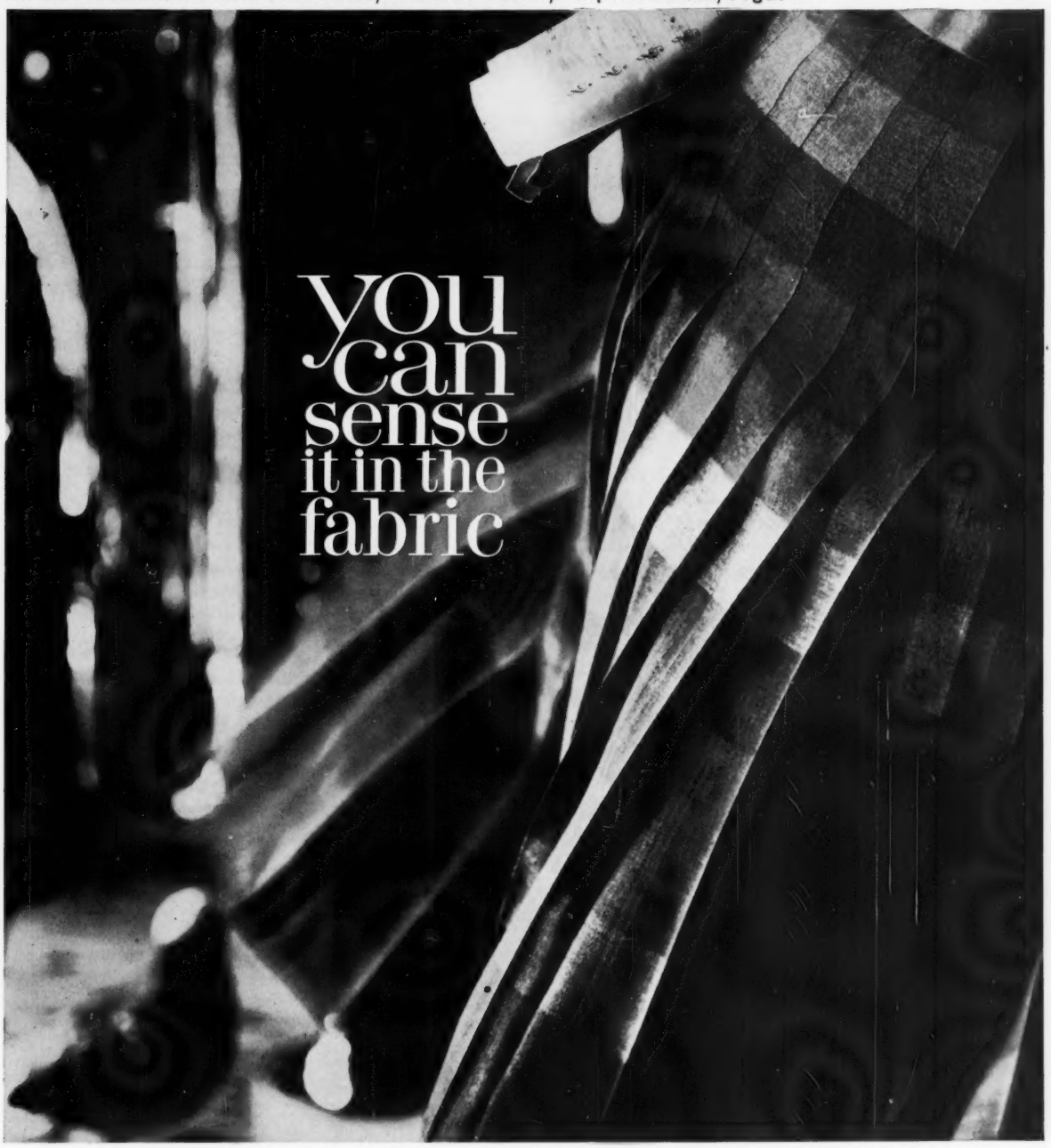
In other words only the last name is the same. The beauty, comfort and performance today's Avisco rayons can give a whole range of fabrics make them truly a miracle fiber.

Discover the carefree comfort of today's Avisco® rayons

AVISCO® RAYONS

AMERICAN VISCOSE CORPORATION 350 Fifth Avenue, New York 1, New York

AS APPEARING IN: New York Times, The New Yorker, Harper's Bazaar, Vogue



The Vitality of Creslan... the fiber with the six senses of fashion.
Vitality is one of the six senses of fashion. It is animation, verve, endurance...an unquenchable spirit. It can stand up to life, because it is the very breath of life itself. Now, Creslan acrylic fiber is breathing this lasting liveliness into everything from clothes to floor coverings. Creslan sparks fabrics with new color vibrancy, helps wrinkles disappear, keeps fashions fresh and neat with least care. Look for them. You'll enjoy all six senses: vitality, lightness, color, taste, touch, and beauty. American Cyanamid Co., N.Y.

Offices: 111 West 40th St., N. Y.; 3333 Wilkinson Blvd., Charlotte, N. C.; 2300 South Eastern Ave., Los Angeles, Cal.; 40 Fountain St., Providence, R. I.

CYANAMID
Creslan®
LUXURY ACRYLIC FIBER

New binder for starch warp size improves efficiency and finish

...for synthetic, natural and synthetic/natural fiber blends

POLYMER REPORT

POLYFILM B-2 improves adhesion, makes yarn stronger, more flexible.

POLYFILM B-2 is a water-dilutable solution of acrylic resin specially formulated to improve film strength, surface and adhesion of starch to synthetic and natural fibers.

Easy to use

POLYFILM B-2 improves conventional starches, modified starches and starch gums. It is added in amounts from 5 to 30% (of weight of dry starch) at any point in the cooking cycle. Disperses quickly, completely . . . without lumps. Gives *uniform* size, day in and day out.

Effective on wide range of synthetic fibers and blends

Used for 100% acetate; acetate-viscose; 100% acrylic; acrylic with viscose, wool, polyester or cotton; 100% polyester; polyester with cotton, viscose or wool; triacetate-viscose, etc.

For hard-to-size fibers producing hairy yarns, POLYFILM B-2 reduces clinging and shedding. Excellent for seersuckers, gabardines, twills, etc. requiring maximum flexibility.

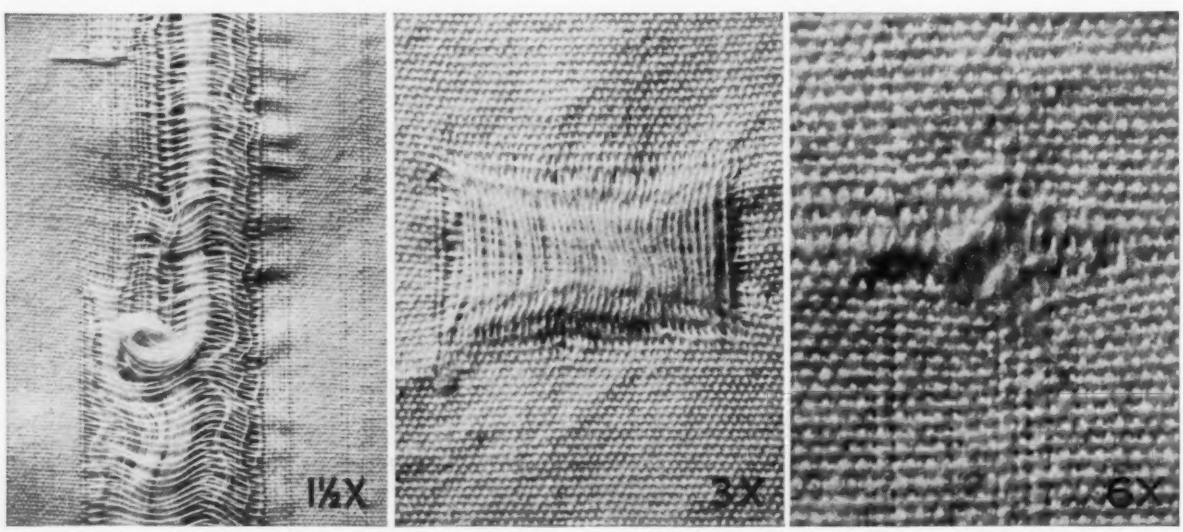
For mills running straight cotton as well as blends, POLYFILM B-2 has been run with starch on carded and combed yarns in counts from 7/1 to 60/1 for fabrics from Osnaburgs to lawns. Marked improvement in efficiency (2-3%) has been demonstrated.

Easily removed

POLYFILM B-2 is quickly removed by conventional boil-off desizing including enzmye baths . . . *even when fabric is heat-set for 2 minutes at 400°F.* Size can be cleaned from equipment with hot *or* cold water.

Technical Service

Polymer Industries' mill-trained textile chemists are available to help you with warp sizing and finishing problems. Call or write Polymer Southern Division, Dept. T8 Box 2184, Greenville, S. C. or Polymer Industries, Inc. Dept. T8, Springdale, Conn.

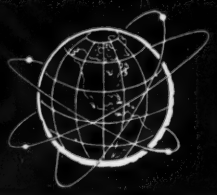


Three types of weaving defects caused by "clinging" of warp ends. By adding POLYFILM B-2 to starch type warp sizes, a smoother warp is produced thereby reducing "clinging," "fluff balls," "floats" and many other misweaves.

Polymer Industries

Polymers, copolymers, natural and synthetic products for sizing, printing, stiffening, softening, coating and laminating. Plants at Springdale, Conn. and Greenville, S. C.

BEAUNIT FIBERS and YARNS



BACKBONE OF AMERICA'S MOST MODERN FABRICS

POLYESTER FIBER

VYCRON® Staple
VYCRON® Tow for Pacific Converters
VYCRON® Tow for Direct Spinners
VYCRON® Direct Spun Yarn
VYCRON® Fiberfill
VYCRON® High Tenacity Filament Yarn
VYCRON® for Turbo Staplers

POLYPROPYLENE

BEAUNIT Polypropylene Staple
BEAUNIT Polypropylene Tow for Pacific Converters
BEAUNIT Polypropylene Continuous Filament Yarn
BEAUNIT Polypropylene for Turbo Staplers

CUPRAMMONIUM RAYON YARN

BEMBERG® Reel Spun and HH Continuous Spinning Filament Yarn
BEMBELLA® Two Ends of Parfé Filament Special Textured Yarn
CUPIONI® Douppioni-Type Entangled Slub Filament Yarn
CUPACOLOR® Solution Dyed Bemberg Filament Yarn
CUPREL Special Textured Yarns
CUPRUSSAH* Thick and Thin Filament Yarn
MULTI-CUPIONI® Douppioni-Type Multi-Entangled Slub Filament Yarn
PARFE® Intermittently Colored Filament Yarn
DREAM SLUB* Torpedo Slubbed Filament Yarn
FLAIKONA® Filament Flake Yarn
STRATA® Thick and Thin Filament Yarn
MULTI-STRATA* Heavily Slubbed Thick and Thin Filament Yarn
TUSSON* Shantung-Type Dull Luster Slubbed Filament Yarn
NUB-LITE® Short Entangled Filament Slub Yarn
STRATELLA* Multi-Slubbed Thick and Thin Filament Yarn

VISCOSE RAYON

COMISO® High Strength Tow
NARCON® High Strength Tow and Staple
NARCO® Yarn
NARCO® Tow for Direct Spinning
HI-NARCO® Medium Tenacity Filament Yarn
SUPER-NARCO® High Strength Filament Yarn
VISCOSE Rayon Industrial Yarns
ONDELETTE® #7 Thick and Thin Yarns
ONDELETTE® #77 Flat Filament Yarns
SKENANDOA Spun Dyed Filament Yarns

SPECIALIZED TIRE YARN

TYREX† Viscose Tire Yarn and Cord

The trade-marks listed here are the property of Beaunit Mills, Inc., and its subsidiaries, and must be so identified when they are used in advertising or on labels and hang-tags. All trade-names must be accompanied by the generic fiber classification; for example: Bemberg® rayon yarn, Vycron® polyester fiber.

BEAUNIT MILLS, INC.

Fibers Division

Main Office: 261 Fifth Ave., New York 16, N. Y. • Plant: Elizabethton, Tenn.
District Sales Offices:
702 Guilford Bldg., Box 1050, Greensboro, N. C. • 625 Hospital Trust Bldg., Providence, R. I.

* T.M. Beaunit Mills, Inc., Reg. app. for

† Certification mark of TYREX inc.

Chromspun, Estron, Verel and Kodel are Eastman fiber trademarks

EASTMAN ESTRON® ACETATE

EASTMAN VEREL® MODACRYLIC FIBER

EASTMAN® CHROMSPUN COLOR-LOCKED ACETATE

EASTMAN KODEL® POLYESTER FIBER

the stamp of quality in modern fibers!

Textile Division Offices:
New York, N.Y., 260 Madison Ave. East Providence, R.I., 888 Broadway Greenville, S.C., 1912 Augusta Road Ft. Washington, Pa., Ft. Washington Industrial Pk. Greensboro, N.C., 435 Jefferson Standard Bldg.

EASTMAN CHEMICAL PRODUCTS, INC., *subsidiary of Eastman Kodak Company*, KINGSPORT, TENNESSEE

DENIERS and FILAMENTS

of U. S. Manmade Fibers and Yarns

1961

An annual MTM compilation
by
H. Geo. Janner
MANAGING EDITOR

Reprints of these Tables are available at $1.00 each, with 20% discount for quantities of 25 or more.

MODERN TEXTILES MAGAZINE
303 Fifth Avenue New York 16, N. Y.

NOTES TO TABLES

CELLULOSIC YARNS

Acetate

AMERICAN VISCOSE CORP. has added a 240/56 Fiber 25 yarn. (Table 1)
CELANESE FIBERS Co. discontinued the following bright and dull yarns, 100/13, 150/20, 200/25, 300/50, 600/13, 900/20, 3200/16. They added 200/52. Of the Celaperm yarns 200/52 and 900/30 were taken out and replaced with 200/114 and 900/240. Under Thick & Thin yarns 900/90 was added, and under Bright & Dull Bulked 450/120, 700/160, and 1080/120. (Table 1) To their line of Tow, they added 12 and 35 den./fil. yarns. (Table 6)

DU PONT has discontinued the following Type 20 yarns: 75/8, 75/50, 100/11, 100/66, 150/60, 150/16, 240/100, 300/40, and has added 75/60, 150/48, 240/80, dull, 300/80, 450/120 dull, 600/160 dull, and 900/240 bright. They also dropped their 200/64 and 100/22 Thick & Thin yarns. Of their Color Sealed Type C yarns they discontinued 55/18, 200/60, 300/40, 450/120, 600/160, 900/240 and 900/70. They added a 300/40 and 600/160 yarn.

EASTMAN CHEMICAL PRODUCTS dropped its 450/114 and its 1800/20D/F Chromspuns, also its 100/25, 150/38, 200/50 and 300/75 Thick & Thin Black Chromspuns. They added a 2700/160/F Lofted Estron. (Table 1).

Rayon

AMERICAN BEMBERG is producing the additional novelty yarns: Nub-Lite, Flaikona, Tusson and Stratella. (Table 1)
AMERICAN ENKA dicsontinued its 75/60 and 300/120 Briglo and added a 150/60 yarn. They also dropped their 300/60 and 300/120 Periglo yarns, as well as their 2200/15, 2700/15 and 4300/15 Skyloft yarns. (Table 1) A new 3 den. has been added to their Staple line, which has super crimp. (Table 3) Their High-Tenacity line has been increased by a 600/120 Tempra yarn. (Table 2)
AMERICAN VISCOSE added a 300/50 and a 900/50 yarn to its Avisco line.

In their High-Tenacity yarns, they discontinued their 1650/980, 2200/980, and 3300/3000 Super Rayflex. They added a 300/60 and 1800/1500 Super Rayflex, a 1150/490 Avisco High Strength, and a 3300/3000 Tyrex yarn.

In their Staple line they dropped the 15 den.-3" Bright XL and 8 den.-3" smooth Carpet Staple.

BEAUNIT MILLS has acquired the manufacturing rights of all of of Du Pont's Novelty yarns as listed in Table 1. However, it has not yet been decided that all of these deniers will actually be produced. (Table 1)

Beaunit H
Pont Cordu
the name H
CELANESE FIBE
yarns they
INDUSTRIAL RA
1) In its H
Tyron 200 t
NEW BEDFORD
that is recta
NORTH AMERIC
To their Hi
3300/2200 T
6000/2934, 1
SKENANDOA RA
300/15, 300/
HARTFORD FIBI
fibers with r
FAIR HAVEN
further data

NON-CELLULOSIC YARNS

Acrilan acrylic fiber

CHEMSTRAND made some changes in its Staple line. Their 2.3 and 3 den. staples are available in solution-dyed (Type 16 only), dark blue, seal brown, old gold, light grey, beige, olive, dark grey, taupe, yellow, medium blue, green and yellow. (Table 4) Acrilan Tow is available in Type 16 and Type 1656 in various deniers. Here too, the 3.0 den. solution-dyed Type 16 comes in a great variety of colors. (Table 6)

Creslan acrylic fiber

AM. CYANAMID made some changes in the length of their staple yarns. (Table 4) There was also a revision of the total deniers in their Tow line. (Table 6)

Dacron polyester fiber

DU PONT has added a Type 35 staple fiber for cellulosic blends. (Table 4) From their Tow they removed the 1.5 den. (Table 6)

Darvan nytril fiber

CELANESE FIBERS informs us that they have discontinued the production of this fiber.

Dynel modacrylic fiber

UNION CARBIDE has added a 15 den. staple and is now also furnishing its 3 den. staple in high bulk and spun with color. (Table 4) The Tow listing also has been changed. (Table 6)

Fortrel polyester fiber

CELANESE FIBERS is now producing this fiber in continuous filament. (Table 5). As staple it is now also available as Fiberfill. (Table 4)

Kodel polyester fiber

EASTMAN has added a 6 and an 8 den. staple (Table 4). From their Tow, they removed the 1.5 den. and added 6 and 8 deniers (Table 6)

Nylon

ALLIED CHEMICAL has dropped the 260/32 Caprolan continuous filament yarn and added to its production 260/16, 1050/70, 2100/112-140 & 408, and 2500/408. In addition, they offer the following monofilaments: 400, 1000, and 2100 den. (Table 5)
AM. ENKA made many changes in its Enka Nylon line, as shown in Table 5.
BEAUNIT MILLS is a newcomer to our Non-Cellulosic Table 5 with a number of nylon yarn types. They are producing nylon staple in 6 and 15 deniers (Table 4)
DU PONT added a monofilament in 30 den. and is offering the following new multifilament yarns 20/17, 70/17 & 20, 140/34, 840/136. (Table 5) They added a 4.6 den staple yarn.
FIRESTONE is now also producing a 840/136 multifil. nylon yarn. (Table 5)
INDUSTRIAL RAYON is no longer producing nylon staple and was removed from Table 4.
NYPEL CORP. is a newcomer to our Table 5 and is producing monofilaments in 425, 1000, and 2100 deniers, also in higher and lower deniers.
POLIAFIL INC., also new to our Table, produces a 15 denier monofilament.
INDUSTRIAL WIRE & PLASTICS Co. is producing round nylon monofilament yarn with diameters from .006 to .040.

Orlon acrylic fiber

DU PONT discontinued its 1 den. staple and has added Types 38, 72, 75 and Orlon Sayelle. (Table 4) In Tow, they discontinued the 1 den., 4.1 Type 38, and added 6 den. Orlon Sayelle.

Polyethylene, Polypropylene

The changes in these two yarn groups again have been so numerous, that they can not be listed here and may be seen in Table 5.
AVISUN CORP. is still continuing with fiber development research, but is not as yet offering any fibers or yarn products for trade evaluation.
AM. MANUFACTURING Co. appears for the first time on our list.
BEAUNIT MILLS is now also producing polypropylene in various deniers. (Table 5) They also offer it as staple fiber (Table 4)
DAWBARN BROTHERS are continuing development work on 50 denier and finer filaments and expect to have a 600/12 propylene yarn shortly.
CHEMORE CORPORATION, General Representative of Montecatini of Milan, Italy, informs us that all the Meraklon polypropylene yarns currently offered by them, are imported from Italy. Their U.S. plant, which is under construction at Neal, W. Va., will not have any production until late 1962.
HERCULES POWDER, also a newcomer, is offering its Prolene polypropylene fiber in a number of deniers. (Table 5) The fiber may also be had in staple form (Table 4), and as Tow (Table 6).
INDUSTRIAL WIRE & PLASTICS Co. are producing round polyethylene filament in diameters of .011, .012, and .014. Their polypropylene comes in diameters .007, .009, .011, .012, and .014, also round.
POLYARNS INC. is a producer of nylon monofilament, polyethylene and polypropylene monofilaments, and a vinyon yarn "45", also monofilament. However, since no data on their production were received, they could not be included in our Tables.
U.S. RUBBER discontinued production of polypropylene and polyethylene yarns.
VOGT MANUFACTURING CORP. is producing its Voplex polypropylene and polyethylene monofilament yarns for automotive and chair web uses.

Rovana vinylidene chloride fiber

DOW CHEMICAL reports that this fiber is now available as tape monofilament in 400 and 1100 deniers. (Table 5)

Saran

DAWBARN BROTHERS discontinued the production of this fiber. (Table 5)
NAT'L PLASTIC PRODUCTS added a 12 den. to its staple line. (Table 4) They discontinued the 1240/10 and added 750/20 and 1000/9 multifilament yarns.

Spandex elastic yarns

DU PONT is offering its Lycra as multifilament yarn in a number of deniers. (Table 5)

GLOBE MANUFA
elastic yarn.
U.S. RUBBER
tonia, N. C.
sizes are ex
yarns are p
with either

Teflon

DU PONT adde
fiber in 3600

Verel mod

EASTMAN mad
4)

Vinyon

AMERICAN VIS
dropped the
VOGT MANUFA
known und
and is used

Vycron pol

BEAUNIT adde
available as

Zefran acr

DOW CHEMICA
and 1207. (T

Only min
discontinuing
5)
Other pro
fied with the
FAMCO, INC.,
Their produ
GUSTIN-BACON
ing roving,
UNITED MERCH
"Uniglass",
their own co

FAIRTEX CORP.,
50-V-NL, a
(Table 7)
MALINA CO. di
Malora with
METLON CORP.
NYLCO PRODUC
aluminum fo

unit has also taken over the production of the former Du Cordura High-Tenacity yarns, which will be continued under me Hi-Narco. (Table 2)
E FIBERS Co. added a 450/60 dull yarn. In the High-Tenacity they discontinued their Fortisan 36. (Table 2)
AL RAYON added a 100/480 Semi-Dull Luster #4 yarn. (Table its High-Tenacity line they dropped the 150/40 and 300/80 200 types. (Table 2)
DFORD RAYON has added a 300/10 and a 300/18 Flat Straw, rectangular shaped yarn. (Table 1)
AMERICAN RAYON added a 100/14 and a 150/90 Bright yarn. eir High-Tenacity line they added 1650/1100, 2200/1440, and 200 Tyrex yarns. Their Tow production was augmented by 934, 1.5 fil.-den. and 2.8 fil.-den. yarns. (Table 6)
OA RAYON added the following yarns: 75/30, 100/40, 125/52, , 300/30, and 600/15. (Table 1)
FIBRES is now furnishing their 3 Zantrel Polynosic staple with regular crimp. (Table 3)
VEN MILLS also produces viscose rayon yarn, however no r data on their production could be obtained.

ANUFACTURING Co. is still not in the production stage with its yarn.
BBER is producing its synthetic elastomer Vyrene at its Gas- N. C. plant in various sizes in monofilament form. The yarn are expressed in terms of the rubber count system. Elastic are produced from these Vyrene cores, by covering the core either one or two wraps of textile yarns.

added a 200/30 and 400/60 yarn and is also producing the n 3600, 4800, and 9600 deniers. (Table 5)

modacrylic fiber

made a number of changes in its staple fiber line. (Table

n

N VISCOSE added a 3 den. ¼" and a 5.5 den. 2" staple and ed the 5.5, 1" and 3½" (Table 4)
ANUFACTURING Co. is also producing a vinyl chloride yarn, under the name Voplex, which comes in round and flat used for automotive fabrics.

n polyester fiber

added 4, 6, and 15 deniers to its staple, which is also ple as Fiberfill (Table 4)

n acrylic fiber

EMICAL is now offering this fiber as staple in Types 1203 07. (Table 4)

Glass Fibers

minor changes, such as adding of new yarn sizes and uing of others, have been reported by the producers. (Table

er producers of glass fibers, but which could not be classi- n the regular glass yarn producers of our Table 5, are:
INC., DIV. OF AMERICAN AIR FILTER CO., INC., Louisville, Ky. product, they inform us, could not be classified as glass yarn.
BACON MANUFACTURING Co. of Kansas City, Mo. are produc- ving, woven roving, and chopped strand mat, but no yarns.
MERCHANTS INDUSTRIAL FABRICS, which make a product called ass", informs us that all their glass yarn production is for wn consumption and not offered for sale.

Metallic Yarns

CORP., NOW FAIRTEX SALES, RIEGEL PAPER CORP. added Fairtex NL, a metalized Mylar protected with plastic coating. 7)
Co. discontinued Malora with Mylar (Metalized) and added with Mylar ML.
CORP. discontinued Metlon HT and Metlon Ultravat
PRODUCTS, INC. is new on our Table with its Nylco MF um foil laminate.

TABLE 1

DENIERS	40	45	50	55	65
RAYON					
American Bemberg	30	....	36	....	45
	30	....	36	....	45
	....	....	....	....	....
	....	....	30	....	....
	....	....	....	....	....
American Enka Corp.	....	....	20	....	....
	....	....	....	....	....
	....	....	18	....	....
	....	....	....	....	....
	....	....	....	....	....
American Viscose Corp.	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
Beaunit Mills, Inc. Fibers Div.	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
Celanese Fibers Co.	....	....	....	....	....
	....	....	....	....	....
Industrial Rayon Corp.	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
New Bedford Rayon Co.	....	....	....	....	....
	....	....	....	....	....
North American Rayon Corp.	....	....	....	....	....
	....	....	....	....	....
Skenandoa Rayon Corp.	....	....	....	....	....
	....	....	....	....	....
ACETATE					
American Viscose Corp.	11	11-14	....	14-20	....
	....	....	....	....	....
	....	....	....	....	....
Celanese Fibers Co.	....	13	....	15	....
	....	....	....	....	....
	....	....	....	15	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
E. I. du Pont de Nemours & Co., Inc.	....	....	....	....	....
	....	13	....	18-24	....
	13	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
Eastman Chemical Products, Inc.	....	....	....	13	....
	....	....	....	20	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
	....	....	....	....	....
TRIACETATE					
Celanese Fibers Co.	....	....	....	15	....
	....	....	....	....	....

TABLE 1 — CELLULOSIC

DENIERS	40	45	50	55	65	75	100	120	125	150	200	230	240	250	275	300	350	450	600	700
RAYON																				
American Bemberg	30 30	....	36 36	....	45 45	60 45	74 60	....	60 60	120 90 120 90† 135	.... 120	....	....	....	.... 135† 372	225	....	.... 225 372	.... 372 372†	....
American Enka Corp.	....	....	20 .... 18	....	....	10-30 45-60 18-45	14-40-60 40 40-60 40	....	.... 40	40-60 40 40-90 40	40 40 .... 40	....	....	.... 60 60	....	40-50-60 .... 30-50-60-120 120	....	80 .... 80 80	80-120 .... 80	....
American Viscose Corp.	....	....	....	....	....	.... 30 10	.... 40-60 14	....	....	.... 24-60 40-90	.... 44	....	....	.... 60	....	30-50 44-120	....	.... 60 100	.... 100	....
Beaunit Mills, Inc. Fibers Div.	....	....	....	....	....	10-30 30	15-40 60 40	....	50 50	40-60 90-100 90 1 60	.... 80	....	....	.... 90	....	50 50 .... 1-30	....	72 72 100 130	96 .... 1 20	....
Celanese Fibers Co.	....	....	....	....	....	30	40-60 60	....	40	40 40-90	....	....	....	60 60	....	50 50	....	120* 60	....	....
Industrial Rayon Corp.	....	....	....	....	....	....	....	....	....	40 40	20-40	....	....	....	....	44-88 80	....	60 .... 450/1/0	90	....
New Bedford Rayon Co.	....	....	....	....	....	....	40	....	....	40 40 also Monofil. bright & dull	....	....	....	....	....	40 10-18 Flat Straw also Monofil.	....	....	16 16	....
North American Rayon Corp.	....	....	....	....	....	30 10	14-60 40	....	52 60	42-90 60	....	....	....	....	....	75	....	....	....	....
Skenandoa Rayon Corp.	....	....	....	....	....	30	40	....	52	 40	....	....	....	....	....	15-30 50	....	75	15-98	....
ACETATE																				
American Viscose Corp.	11	11-14	....	14-20	....	20 18	28	32	....	41 36 41	54	....	80 56	....	....	80	....	....	....	....
Celanese Fibers Co.	....	13	....	15 .... 15	....	20-50 17 20	26-40 .... 26 20	40 .... 40	....	40 35 40 30	52 .... 104 40	.... 104	80	....	....	80 .... 80 60	.... 80	120 .... 120 90 120	160 .... 160 120 160	....
E. I. du Pont de Nemours & Co., Inc.	.... 13	13	....	18-24	....	24 24-60 .... 24	.... 32 .... 32	.... 50	....	48 40 .... 40	.... 64 60	....	.... 80 80	....	....	.... 80 80 80 40-80	....	.... 120 120	.... 160 160 .... 160	....
Eastman Chemical Products, Inc.	....	....	....	13 20	....	19 49 .... 19	25 .... 25	30	....	38 .... 38 .... 7 7	50 .... 50 50 .... 220/4 D/F	.... 2 D/F 2 D/F	....	....	....	75 .... 75 75 .... 330/4 D/F 330/4 D/F	.... 4 D/F 4 D/F	114	156 .... 4 D/F 4 D/F	....
TRIACETATE																				
Celanese Fibers Co.	....	....	....	15	....	20	26	....	....	40	52 40	....	....	....	....	80 60	....	120	160	....

I C Y A R N S

700	900	1000	1080	1100	1200	1800	2200	2400	2500	2700	3000	4000	5000	5300	TYPES
															Bemberg & Matesa Rayon, Reel Spun, Spool Spun Yarn
	372†								744				1488		Cupioni Strata †Solution dyed colors Parfe, Nub-Lite, Flaikona, Tusson, Stratella
	120														Briglo Perlglo (Semi-Dull) Englo (Dull) Jetspun (Color Yarns)
		7.5 D/F												15	Skyloft
	50 100 150				75	100* 200*				150 150* 300*-980*					Avisco, Bri., Dull & Semidull, Colorspun, *Avicron
	50-144					100				150					Bright and Dull
				240			480								Thick and Thin
					16										#77 Rayon
				360			720								Ondelette
															Civona
															Bright *Thick & Thin Dull
	50 150			480		100				150					Bright & Dy-Lok (Colored) Yarn & Dull Semi-dull Luster #4
					1250/1/0										Strawn® Bright and Dull
			Flat Straw												New Bray New Dull
	46					92									Bright, Xtra-dull
	150														Bright, Veri-Dul
															Avisco, Bri. & Dull Avisco Fiber 25 Avisco Colorspun
	80-240					80		120		120	160	200			Bright & Dull
	240														Type F Celaperm
	90														Thick & Thin
160			120												Bright & Dull—Bulked
	44 44-240 240					88 88				132 132	210				Type 20 Bright & Dull "Acele"
	44*											*Black only			Color Sealed Type C
	128 230 128					20 D/F									Bright & Dull Estron Chromspun
D/F D/F			7 D/F 7 D/F				16 D/F 16 D/F			16 D/F					Thick & Thin Estron Lofted Estron Lofted Chromspun Estron Crystal Chromspun Crystal Sculptured & Loftura Estron Sculptured & Loftura Chromspun
															Arnel Arnel Thick & Thin

TABLE 2 — INTERMEDIATE, HIGH

DENIERS	30	40	50	60	90	100	120	150	200	270	300	400	450
American Enka Corp.	....	....	....	....	....	....	....	....	....	....	....	....	....
	....	....	....	....	....	....	....	....	....	....	120	....	....
	....	....	....	....	....	....	....	....	....	....	40	....	....
American Viscose Corp.	....	....	....	....	....	....	....	....	....	....	....	....	....
	....	....	....	....	....	30	....	40	75	....	120	....	120
	....	....	....	....	....	....	....	....	....	....	60	....	60
Beaunit Mills Coosa Pines Div.	....	20	20-35	....	....	....	....	60	....	....	120	....	180
Celanese Corp. of Am.	40	....	....	80	120	....	160	180	....	360	360	....	....
Du Pont	....	....	....	....	....	....	....	....	....	....	....	....	....
Industrial Rayon Corp.	....	....	....	....	....	....	....	....	....	....	....	....	....
	....	....	....	....	....	....	....	....	....	....	....	....	....
	....	....	....	....	....	....	....	....	....	....	....	....	....
North American Rayon Corp.	....	....	....	....	....	....	....	....	....	....	....	....	....

TABLE 3 — CEL

Deniers	*Length in inches*	*Luster*	*Crimp*	*Spi Sy*
RAYON				
AMERICAN ENKA				
1.5	1⅛	bright & dull	regular	Cotton
1.5	1-9/16, 2	bright & dull	regular	Cott. &
3.0	1-9/16	bright & dull	regular	Cotton
3.0	2	bright & dull	regular	Cott. &
3.0	2½	bright	regular	Cott. &
3.0	1¼, 1-9/16, 2	bright & dull	super	Cotton
4.5	1-9/16	bright	high	Cotton
6.5	2	dull	high	Cott. &
6.5	3	bright	high	Cott. &
8.0	1-9/16, 3, 4½	bright	high	Carpet
15.0	3	bright	medium	Carpet
15.0	3, 4½, 6	bright	high	Carpet
15.0	3	dull	high	Carpet
AMERICAN VISCOSE				
1.00*	1-9/16	bright	none	Cotton
1.25	2	dull	yes	Cotton
1.50	1⅛, 1-9/16	bright	none	Cotton
1.50	1-9/16, 2	bright & dull	none	Cotton
3.00	1-9/16	bright & dull	with & without	Cotton
3.00	2	bright & dull	none	Cott. &
3.00	2½	bright & dull	none	Cott. &
5.50	1-9/16	bright & dull	yes	Cott. &
5.50	2	bright & dull	with & without	Cott. &
5.50	5 to 7	bright	none	Worsted
8.00	1-9/16, 3	bright	yes	Carpet
15.00	3, 4, 5 to 7	bright & dull	yes	Carpet
8.00	1-9/16	bright	yes	Carpet
15.00	4	dull	yes	Carpet
22.00	4	dull	yes	Carpet
1.00	1-9/16	Bright XL	none	Cotton
1.50**	1-9/16	Bright XL	none	Cotton
1.50	2	Bright XL	none	Cotton
1.50	1-9/16	Colorspun	none	Cotton
3.00	2	Colorspun	none	Cotton
15.00	3	Colorspun	yes	Carpet
15.00	3 & 5-7	Brt. Smooth	none	Carpet

* 15% over regular strength; all others listed, regular strength.
** 30% stronger dry, 50% stronger wet.

COURTAULDS (ALABAMA) INC.

1.5	1⅛, 1¼, 1-9/16, 2, 2½	bright & dull	none	Cotton
3.0	1¼	bright & dull	none	Cotton
3.0	1-9/16	bright & dull	yes	Cotton
3.0	2	bright & dull	yes	Cott. &
5.5	1⅛	bright	none	Cotton

H-TENACITY and TIRE CORD YARNS

0	600	900	1100	1150	1165	1200	1230	1275	1500	1530	1600	1650	1725	1780	1800	2200	2400	3300	4400	TYPES
	....	....	720	....	....	....	....	....	....	....	....	1100	....	....	....	1440	....	....	....	Tyrex Viscose Yarn
	....	....	720	....	....	....	720	....	....	....	1100	1100	....	....	1100	1440	....	....	....	Suprenka
	120	120	480	....	....	....	480	....	....	....	....	720	....	....	....	960	....	....	....	Tempra
	80	120	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Jetspun
	....	....	980	....	....	....	....	....	....	....	....	1500	....	....	....	1500	....	3000	....	Tyrex Yarn
	....	....	490	490	....	....	....	....	....	....	....	980	....	....	....	980	....	....	....	Avisco High Strength Rayflex
0	234	350	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
0	....	....	980	....	....	....	....	980	980	....	....	....	....	1500	1500	....	....	....	3000	Super Rayflex
	....	....	720	....	....	....	....	....	....	....	....	720	....	....	....	....	....	....	....	Tyrex Viscose Yarn
0	240	....	....	....	480	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Hi-Narco
	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Rayon: Fortisan
	....	....	720	....	....	720	....	....	....	....	960	1100	....	....	1100	1440	1440	....	....	Super Cordura
	....	....	720	....	....	....	....	....	....	....	....	1100	....	....	....	....	....	....	....	Tyrex Viscose Yarn
	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	720	....	1440	1440	}
	....	....	480	480	....	....	....	....	....	....	....	720	720	....	....	1000	....	....	2000	Tyron 200
	....	....	720	....	....	....	....	....	....	....	....	....	....	....	....	2000	....	....	4000	}
	....	....	720	....	....	....	....	....	....	....	....	1100	....	....	....	1440	....	2200	....	Tyrex Viscose Yarn
	....	....	....	....	....	....	....	....	....	....	....	720	....	....	....	....	....	....	....	}

ELLULOSIC STAPLE

Spinning System	Deniers	Length in inches	Luster	Crimp	Spinning System
	5.5	1-9/16, 2, 3	bright & dull	with & without	Cotton
	5.5	2	bright & dull	yes	Cott. & Wool
	5.5	3	bright & dull	yes	Wool
	8.0	3	bright & dull	yes	Wool
otton	8.0	6	bright & dull	yes	Worsted
ott. & Non-Wov.	15.0	3	bright & dull	yes	Wool
otton	15.0	6	bright & dull	yes	Worsted
ott. & Woolen	1.5	1⅛, 1-9/16	Coloray	none	Cotton
ott. & Woolen	3.0	2	Coloray	none	Cott. & Wool
otton	1.5	1⅛, 1-9/16	Black Coloray	none	Cotton
otton	3.0	1⅛, 1-9/16	Black Coloray	none	Cotton
ott. & Woolen	3.0	2	Black Coloray	none	Cott. & Wool
ott. & Woolen	5.5	1-9/16, 2	Black Coloray	none	Cott. & Wool
arpet	5.5	3	Black Coloray	none	Wool
arpet	5.5	6	Black Coloray	none	Worsted
arpet					
arpet					
	Corval cross-linked Rayon in 3 den. 1-9/16 & 2" and 5½ den. 2 & 3" all semi-dull crimped.				
	Topel cross-linked Rayon in 1½ den. 1-9/16 & 2" bright and 3 den. 2" dull.				
	HARTFORD FIBRES CO.				
otton	1.5 }	1-9/16 & 2	bright & dull	none	Cotton
otton	3.0 }				
otton	8.0	3 & 6	bright	yes	Cott., Wool, Flax
otton	15.0	3, 4½ & 6	bright & dull	yes	Cott., Wool, Flax
otton	8.0	3 & 6	Kolorbon	yes	Cott., Wool, Flax
ott. & Wool	15.0	3 & 6	Kolorbon	yes	Cott., Wool, Flax
ott. & Wool	1.0	1-9/16	Zantrel Polynosic	regular	Cotton
ott. & Wool	1.5	1-9/16 & 2	Zantrel Polynosic	regular	Cotton
ott. & Wool	3.0	1-9/16 & 2	Zantrel Polynosic	regular	all systems
Vorsted					
arpet	*NORTH AMERICAN RAYON CORP.*				
arpet	"Narcon"—Super-High Tenacity Rayon Staple				
arpet			Narcon #1 (High Shrinkage, High Bulking)		
arpet	1.5	1.5 to 4	bright	none	Cott. & Wool
arpet			Narcon #2 (Regular Shrinkage)		
otton	1.5	1.5 to 4	bright	yes	Cott. & Wool
otton	3.0	1.5 to 4	bright	yes	Cott. & Wool
otton					
otton					
arpet					
arpet					
	ACETATE				
	CELANESE FIBERS CO.				
	2.0				
	3.0				
	5.5				
	8.0	any length	bright & dull	yes	all systems
	12.0				
otton	17.0				
otton	35.0				
otton	50.0				
ott. & Wool					
otton	Arnel Triacetate available in 2.5 & 5.0 den. and Arnel 60 in 1.5 & 3.0 den. in 1.5 & 2 inch.				

TABLE 4 NON-CELLUL

Deniers	Length in inches	Luster	Crimp	Spinning Systems
Acrilan Acrylic Fiber—*THE CHEMSTRAND CORP.*				
1.0 (Type 16 only)		bright or semi-dull		
2.0		bright or semi-dull		
2.5 hi-bulk		bright or semi-dull		
2.5 } Solution dyed 3.0 } (Type 16 only)	1-9/16 to 5	bright only	yes	all systems
3.0		bright or semi-dull		
5.0		bright or semi-dull		
8.0		bright or semi-dull		
15.0		bright or semi-dull		
15.0 (Type 16)				
	The above types of staple fiber also available in Acrilan 16. Acrilan is also produced as Fiberfill			
Creslan Acrylic Fiber—*AMERICAN CYANAMID CO.*				
2.0	1¼ to 2½			
3.0	1¼-4½	bright & semi-dull	yes	all systems
5.0	1¼-4½			
15.0	2 to 4½			
Dacron Polyester Fiber—*DU PONT*				
1.50	1¼, 1½			
2.25	1¼, 1½, 2, 2½, 3 & 4½			
3.00 }		semi-dull	yes	
4.50 }	1¼, 1½, 2, 2½, 3 & 4½			
6.00 }				
Fiberfill				
Type 35 for cellulosic blends				
Type 61 Industrial staple—45% shrinkage—3.0 and 6.0 denier.				
Type 64 pill resistant, more dyeable staple primarily for suiting fabrics.				
Type 54 semi-dull, normal tenacity.				
Color sealed (black only) in 2.25 and 3.0 deniers.				
Dynel Modacrylic Fiber—*UNION CARBIDE CHEMICALS CO.*				
2.0	1¼-3	bright		
3.0	1¼-4½	bright & dull		
6.0	1¼-4½	bright	yes	all systems
12.0	1¼-4½	bright		
15.0	1½-4½	bright & semi-dull		
24.0	1½-4½	bright		
3.0 den. also in High Bulk and spun with color.				
Fortrel Polyester Fiber—*CELANESE FIBERS CO*				
1.5				
3.0				
4.5	1½, 2 & 3	semi-dull	yes	all systems
6.0				
also available as Fiberfill				
Kodel Polyester Fiber—*EASTMAN CHEMICAL PRODUCTS*				
1.50				
2.25				
3.00	any length	semi-dull	yes	all systems
4.50				
6.00				
8.00				
Nylon—*DU PONT*				
1.5	1⅛, 1½, 2, 2½, 3, 4½	semi-dull	yes	
2.3	1½	Type 420		
3.0	1⅛, 1½, 2, 2½, 3, 4½	bright & semi-dull	yes	all systems
4.6	1½, 2, 2½, 3, 4½, 6	bright	no	
6.0	1⅛, 1½, 2, 2½, 3, 4½	bright	yes	
15.0	1½, 3, 4½, 6½	bright & dull	yes	
BEAUNIT MILLS INC. FIBERS DIV.				
6.0	any length	dull & bright	yes	all systems
15.0				
Orlon Acrylic Fiber—*DU PONT*				
2.0 }		semi-dull & bright		
3.0 }		semi-dull & bright		
4.5 }	1½, 2, 2½, 3 & 4½	semi-dull	yes	
6.0 }		semi-dull & bright		
10.0 }		semi-dull & bright		
All available in regular or high shrinkage.				
Color-sealed (black only), in 3.0 denier, 6.0 denier and 10.0 denier.				
Type 75—2.5 denier, semi-dull, regular shrinkage.				Cotton/Rayon
Type 39—mixed denier, variable cut lengths.				Woolen
Type 39A—mixed denier (fine), variable cut length.				Woolen
Type 39B—mixed denier (heavy), variable cut length.				Woolen
Type 72—1.5 denier, semi-dull, regular shrinkage.				Cotton
Type 38—avg. 3.0 denier, 1¼", semi-dull & bright.				
"Orlon Sayelle"—3.0 & 6.0 den., variable length, semi-dull, crimped.				

L O S I C S T A P L E

Deniers	Length in inches	Luster	Crimp	Spinning Systems
Polypropylene—*Beaunit Mills Inc. Fibers Div.*				
1.5 3.0 4.5 6.0 15.0	any length	bright	yes	all systems
Prolene Polypropylene Fiber—*HERCULES POWDER CO*				
3 6 15	from 1⅛ to 7	bright & semi-bright		
Saran—*NATIONAL PLASTIC PRODUCTS CO*				
12 16 22 30 45	1-8		yes	all systems
Teflon—*DU PONT*				
6.67	½ to 5			
Verel, Modacrylic Fiber—*EASTMAN CHEMICAL PRODUCTS*				
	Types A, B, C and D			
2.75	1¼			
3 5 8 12 16 24	standard length	dull & bright	Type A, B high crimp Type C medium crimp Type D low crimp	all systems
	Type III Controlled Shrinkage Fiber			
3	standard length	dull & bright	yes	all systems
	Type HB			
3 5 8 12 16	standard length	dull & bright	very high crimp	all systems
Vinyon—*AMERICAN VISCOSE CORP.*				
1.5	1½	bright	slight	
3.0	¼	bright	slight	
3.0	½	bright	slight	
3.0	1¼	bright	slight	all systems
3.0	2	bright	slight	
5.5	2	bright	slight	
Vycron Polyester Fiber—*BEAUNIT MILLS*				
1.5 3.0 4.0 6.0 15.0	1½, 2.0, 3.0, 4.0 also available in Fiberfill	semi-dull	yes	all systems
Wefran Acrylic Fiber—*THE DOW CHEMICAL CO.*				
Type 1203				
2.0	1½-2	bright	yes	Cotton/Rayon
3.0	1½-2	bright	yes	Cotton/Rayon
6.0	1½-2-3-4½	bright	yes	Cotton/Rayon
Type 1207				
2.0	1½-2-3	bright	yes	all systems
3.0	1½-2-3-4½	bright	yes	all systems
6.0	1½-2-3-4½	bright	yes	all systems
W-7 (average denier of about 2.5)				Woolen
W-9 (average denier of about 4.5)				Woolen

TABLE 5

DENIERS	7	10	12	14	15	17	20	21	25	28	30	35	40	50	60	70	80	90	100	110	140	150	165	200	210	220	250	260	270	280	300	320
Allied Chemical																					16			16				16				
																								32	32							
American Enka					1		1-6				1-6		8-13	13		16-32			32		24			16				16				
											3								48		32			32	32			17				
																					64			64				32				
Beaunit																									50							
Celanese												15	30			15-36					30											
													30			36-60			36		36											
											20		30			36																
Chemstrand													10			20								34	34			17				
		1			1		7				10-26		13	17		34		26	34		68			68								
Du Pont	1	1	1		1		1-7			4	1-10		1	17		34	26	26	34		68			34	34			17				
					3		17-20	3			26		13-34		34	20			50	50	34			68								
				2		2	2						7-10	10	20	17								20								
											10		13			17-34			34					20-34				20				
											20		27			34			34			34										
											14		27			14-34					28					50	50					
													27			34																
																								30								
																1					1								1			
American Mfg. Co.																																
Am. Thermoplastics																					.006							.008				
																					.006							.008				
Dawborn Brothers																											.008		.004x.013			
Dow Chemical																										Yarns in 400 and 1100 deniers						
Firestone Synthetic Fibers																								.005			.007				.008	
																								.006					.008			
																								.006				.008		.004x.013		
Hercules Powder Co.																							35		35							
Industrial Plastic																													.008			
																													.004x.014			
National Plastic Products																			.004					.006			.007				.008	
																								.006				.008				
																					.006									.008		
																								.005					.004x.013			
Nypel Corp.	Monofilament yarns in 70, 100 and 124 deniers																															
Poliafil Inc.					1																											
Reeves Bros.																.004					.006							.008				
																.004					.006						.008					
																								70x3 den.								
Southern Lus-Trus																					.006							.008				
U.S. Rubber	The following sizes, expressed in terms of the rubber count system, are produced: 75's, 90's, 110's, 125's, 135's, 150's, and 200's all in monofilament form																															
Vogt Mfg. Corp.																																
Johns-Manville Glass Fiber													102					102						204					204		204	
																		204						408								
																					204										306	
																															408	
																															612	
Owens-Corning Fiberglas								51					102					204			306		204								204	
																		102					408								306-408	
																															612	
Pittsburgh Plate Glass																		204			204		204				204				204	204
																							408								408	

NON-CELLULAR GLASS

320	375	380	400	410	420	425	430	445	480	500	515	520	525	540	560	590	600	610	630	650	690	700	720	750	770	780	80
			1		64							32															
			64		64							32 34															
					140														140								
					68							34											140			51	
			68		68																						14
												34							102							51	
			60		1										1												
			.010													.012					.013			.0135			
			.010 .010												.012		.012 .008x.020										
	.010		.010										.006x.019				.012 12/0x.004			.013			.001x.120				
.008			.009	.008†						.008		.010									.010L				.010 .005x.020		
					.010						.012L						.008x.020L		.012 .008x.020								
	.0045x.018	.010L		.010								.006x.020				.012 .008x.050						.013		.006x.030			
																			120								
	.010		.010										.006x.020		.012		.012							.006x.030			
.008		.008	.009						.010			.010						.012	.012							.012		
			.010													.012 .006x.019	.012					.013			.014		
									496/.0045x.0135	.008															.010		
						1																	750/20*				
			.010														.012										
		.010							.007x.018						.012		.008x.020				140x5 den.						
					140x3 den.					.008																		
																		.012							.010		
			.010																								
							.004x.021	.010																.006x.030			
																							G	L	A	S	S
			408 816							408								204 408 612 816 1224									
			408 816							204				204 408				204-408 612-816 122									
204			408 816														408 204	408 1244									

U L O S I C Y A R N S

0	770	780	800	815	840	865	915	920	925	930	950	960	970	980	990	1000	1040	1050	1100	1120	1200	1225	1400	1500	1520	1540	1580	165
					136											1		56 70										
					56 140												56 68					68						
					140 (heat stabilized) 160											70		68										
		51			140												68											
			140		140 136																							
		51																										
																			250									
																					180							
5																												
					.014											.009x.030												
																.001x.157								.001x.235				
											variable					.009x.030												
	.010				136*	.013		.012‡					.012L							.015 .012					.014			.01
	.005x.020			.008x.020L‡						.008x.030‡					.008x.020L					.008x.020						.008x.030‡		
										.0145					.015			.009x.030									.013x.030	
030						.0145		.015										.009x.030				.009x.036		.013x.030				.02
					140																							
030																.009x.030						.009x.030						
	.012						.009x.030								.015					.015								.02
	.014					.0145			.015							.009x.030												.02
	.010						.015								.006x.0185	1000/9*				.012 1116/.0065x.020			1300/9*					
																1												
												.015					.009x.0302											
										.015					009x.030			70x15 den.										
	.010																			.012 .008x020								.01 .009x
															.009x.030													
030						.004x.042											.009x.030						.008x.040					

S Y A R N S

			816 1632	408		612																				3060		16 32
																						408 816						
						1836																						
																						1224 2448						
			816 1632			612 1836																816 1224 2448				3060		16 32
						612 1836															408	816 2448						

0	1650	1680	1730	1750	1810	1850	2000	2050	2100	2310	2465	2500	2520	2770	2790	2920	3000	3320	3360	3624	Type of Yarn
									1												Caprolan (nylon) bright, semi-dull, heat & light stabilized, high tenacity, modified cross-section, and textured.
									112			408									
		272							140								also 3360—15000 den.				
									408												
																					Enka Nylon, dull, semi-dull & bright
									136												Nylon, semi-dull & bright
		280											420						560		Polypropylene
																					Fortrel, bright
																					semi-dull
																					dull
		280															and 15120 den. 2520 fil.				Nylon, dull, semi-dull, bright & high bright
													420			also industrial yarns 2520/700,					Nylon, various types
		280														3360/700, 5040/840, 7560/1260,					
																10080/1680 and 15120/2520					
																					Nylon, Color-sealed Black
																					Dacron, semi-dull
																					do , bright
																					do , dull
																also 3600/540,	4800/720,		9600/1040		Teflon
																					Lycra multifilament
																					Polypropylene, monofilament
																	.007			.007	do , multifilament
																	15 ends			20 ends	
														.012x.068							Polyethylene, round & flat
																					Polypropylene, round & flat
																					Polyethylene, DLP, round & ribbon
												variable									Polypropylene, DLP-51, round slub
									variable												do , flat & ribbon slub
																16/0x.007 and 5/0x.012 in 3000 den.					do , multifil., round
																					Rovana, Vinylidene chloride tape monfilament
							.020										and 3200/180 multifil.				Nylon monofilament & multifil. (*)
	.0145														.019	.020					Velon, round, also .030 & .055
						.009x.030							.013x.030L								do , eliptical, low density (‡)
				.021																	Polyethylene, reg. round
	.030																				do , linear round
	.020																				do , linear eliptical
																					Polypropylene, round
																					do , flat
													420								Prolene polypropylene fiber, bright & semibright
																					Propylene, round
																					do , flat
																					Polyethylene, round
																					do , flat
																					Nylon, monofil., round
																					Polyethylene, lin., round & oval
	.020																				do , branched, round
	.020																				Polypropylene, round
																					do , oval
				.011x.027																	Polystyrene, flat
				.015												.020				.030	Saran, round
																also 1860/.00875x.030,	2230/.010x.030,	2790/.01275x.030 (all oval)			do , flat & oval
																	*Multifilament yarns				Saran
									1							also higher & lower deniers					Nylon, monofilament
																					Nylon 66, monofil., semi-dull
				.020																	Reevon Polyethylene, round
																					do do , flat
		.020																			Reevon Polypropylene, round
																					do do , flat
												84x30 den.					16x.007				Multifilament
	.015															.020					Saran, round
	.009x.030															.013x.030					do , eliptical
																					Polyethylene, round
																					Polypropylene, round & flat
																					Vyrene, synthetic elastomer monofilament
																					Voplex polyethylene, round & flat
																					Voplex polypropylene
						.005x.050				.020											Voplex vinyl yarns, round & flat
	1632					1224		2040							1836			3264			
	3264										1632									2448	Glass Fiber Yarns
											2448										(others in den. up to 10,000)
						1836															
								4080													
						1224		2040							1836			3264			
	1632					1836					1632										"Fiberglas" Yarns
	3264							4080			2448									2448	
						1224									1836					2448	Fiber Glas Yarns

TABLE 6 TOW

Cellulosic

Acetate

CELANESE FIBERS CO

Filament Denier	Number of Filaments	Total Denier
2.0		
3.0		
5.5		
8.0	available in various deniers	
12.0		
17.0		
35.0		
50.0		

Bright and dull, crimped and uncrimped.

Triacetate Fiber Arnel

CELANESE FIBERS CO.

Filament Denier	Number of Filaments	Total Denier
2.5		114,000
5.0		180,000

Rayon

AMERICAN VISCOSE

Filament Denier	Number of Filaments	Total Denier
1.5	bright & dull	200,000
3.0	bright & dull	200,000
5.5	bright & dull	200,000
9.0	bright	

CELANESE FIBERS CO.

Filament Denier	Number of Filaments	Total Denier
1.5		213,000
3.0		200,000
5.5		200,000
8.0		207,000

Bright and dull, crimped and uncrimped.

NORTH AMERICAN RAYON CORP.

2200/960, 2200/2000, 4400/2934 and 4400/2000, 6000/2934 1.5 fil. den. 155,000 total den. and 2.8 fil. den. 200,000 total den.

Bright, super-high tenacity.

Non-Cellulosic

Acrilan Acrylic Fiber

THE CHEMSTRAND CORP.

Filament Denier	Number of Filaments	Total Denier
Type 16		
1.0	staple only	
2.0		480,000
2.5 Hi-Bulk		600,000
3.0		480,000
3.0 Solution-dyed		480,000
4.5 Hi-bulk		500,000
5.0		480,000
8.0		480,000
15.0		450,000

All deniers in semi-dull or bright except solution-dyed fiber which is available only in bright lusters.

Filament Denier	Number of Filaments	Total Denier
Type 1656		
2.0		480,000
2.5 Hi-bulk		360,000
3.0		432,000
5.0		500,000
8.0		360,000
15.0		675,000

All deniers in semi-dull or bright.

Creslan Acrylic Fiber

AMERICAN CYANAMID CO

Filament Denier	Number of Filaments	Total Denier
2.0		440,000
3.0	bright or semi-dull, crimped	437,000
5.0		437,000
15.0		550,000

Dacron Polyester Fiber

DU PONT

Filament Denier	Number of Filaments	Total Denier
2.25	all	450,000
3.0	all	450,000
4.5	all	450,000
6.0	all	450,000

Semi-dull.

Color-Sealed (black only) in 2.25 & 3.0 deniers.

Dynel Modacrylic Fiber

UNION CARBIDE CHEMICALS CO.

Filament Denier	Number of Filaments	Total Denier
2(B)	67,500	135,000
3 (B & D)	67,500	202,500
3 (SWC)	60,000	180,000
3 (High-Bulk)	67,500	180,000
6 (B)	30,000	180,000
12 (B)	15,000	180,000
15 (B & SD)	12,000	180,000
24 (B)	7,500	180,000

B = bright, D = dull, SD = semi-dull, SWC = spun with color.

Fortrel Polyester Fiber

CELANESE FIBERS CO

Filament Denier	Number of Filaments	Total Denier
1.5		
3.0	semi-dull	all
4.5		225,000
6.0		

Kodel Polyester Fiber

EASTMAN CHEMICAL PRODUCTS

Filament Denier	Number of Filaments	Total Denier
2.25		
3.0		all
4.5		450,000
6.0		
8.0		

Nylon

DU PONT

			not heatset	heatset
3.0	semi-dull & bright	143,333	430,000	455,000
6.0	bright	55,000	330,000	345,000
15.0	bright & dull	28,333	425,000	

Orlon Acrylic Fiber

DU PONT

Filament Denier	Number of Filaments	Total Denier
2.0	semi-dull & bright	235,000
3.0	semi-dull & bright	157,000
4.5	semi-dull	104,500
6.0	semi-dull & bright	78,300
10.0	semi-dull & bright	57,000

all 470,000

Color-sealed in black only in 3.0, 6.0 & 10.0 den.

"Orlon Sayelle"—6.0 den., semi-dull 470,000

Prolene Polypropylene Fiber

HERCULES POWDER CO.

Filament Denier	Number of Filaments	Total Denier
3		215,000
6	bright & semi-bright	210,000
15		210,000

Saran

NATIONAL PLASTIC PRODUCTS CO.

Filament Denier	Number of Filaments	Total Denier
10 to 45		up to 300,000

Teflon

DU PONT

Filament Denier	Number of Filaments	Total Denier
6.67		4,000-6,400

Vycron Polyester Fiber

BEAUNIT MILLS INC., FIBERS DIV.

Filament Denier	Number of Filaments	Total Denier
1.0		1120, 2240
1.5		1260, 1680, 3360
3.0		1260, 1680, 3360

For direct spinning from tow.

Filament Denier	Number of Filaments	Total Denier
1.5		200,000
3.0		200,000

For converters.

Zefran Acrylic Fiber

THE DOW CHEMICAL CO.

Available in experimental quantities only.

TABLE 7 ME

Producer	Types	Yarn Sizes
DOW CHEMICAL CO.	LUREX (Butyrate) LUREX MM LUREX MF	1/16" to 1/128" supported or unsupported and in all types of put-ups.
	LUREX 50-C	1/64"
FAIRTEX SALES RIEGEL PAPER CORP.	FAIRTEX Type 206 (Butyrate) FAIRTEX with Mylar Metalized 100V and 150V FAIRTEX with Mylar 150F Foil	1/16" to 1/128" either supported or unsupported on cones, spools or tubes. Also in staple or chip form.
	FAIRTEX 50V-NL	1/64" to 1/100"
MALINA CO.	MALORA (Butyrate) MALORA with Mylar (Foil) Metallic Cellophane Yarn	1/16" to 1/120" either supported or unsupported in all put-ups.
	MALORA with Mylar ML	1/64"
METAL FILM CO.	CHROMEFLEX NL	1/32" to 1/100" yielding to 90000 yards per lb.
	CHROMEFLEX MF	1/16"-1/100"
	CHROMEFLEX MM	1/16"-1/100"
METLON CORP.	METLON No. 400 (cellophane-based)	1/50" and up
	METLON-B (Butyrate type)	1/120" to 1/16"
	METLON-F with Polyester	1/120" to 1/16"
	METLON-V Polyester	Same as above.
	1) Any of the above are available in Staple or Wink form. *2) Crystal Mist, a translucent semi-iridescent Polyester based yarn available in standard s*	
MULTI-TEX PRODUCTS CORP.	DURA-STRAN (Foil/Mylar)	1/100" to 1/4"
	ALISTRAN (Cellophane/Foil)	1/100" to 1/4"
	Butyrate	1/64" to 1/4"
	NON-METALLIC	1/64" to 1/4"
NYLCO PRODUCTS INC.	NYLCO MF	1/32, 1/50, 1/80 & 1/100 inch.
REYNOLDS METALS CO.	REYMET MF	1/8" to 1/80"
	REYMET MM	1/8" to 1/80"
	REYMET BF	1/8" to 1/80"
	REYMET CF	1/8" to 1/80"
	All of above available in staple form down to widths of 1/220".	
STANDARD YARN MILLS, INC.	LAME	1/16" to 1/100", also in wider width. Available in staple and flock form.
	LAME with Mylar (Foil)	1/16" to 1/100"
	LAME with Mylar (Metalized)	Same as above All yarns available either unsupported or supported.
	LAME—Non-Laminated Yarn	Same as above
	Mylar is Du Pont's polyester film.	

METALLIC YARNS

	Construction	Colors
rted or unsup- of put-ups.	Laminated with aluminum foil. Laminated metalized Mylar film. Aluminum foil laminated both sides with Mylar film. Metalized Mylar base protected on both sides by a plastic coating.	Gold and silver and wide range of other colors.
supported or spools or tubes. form.	Laminated with aluminum foil. Laminated with Mylar Polyester film. Same as above. Metalized Mylar protected with plastic coating.	Gold and silver and wide range of other colors, and multi-colors. Gold, silver, black, turquoise, etc.
nsupported in	Aluminum foil laminate. Metalized Mylar with clear Mylar. Clear Mylar with aluminum foil. Laminate of clear cellophane film to aluminum foil. Metalized, non-laminated Mylar film.	Gold and silver. Other colors supplied on special orders.
ding to 90000	Non-laminated Mylar. Foil laminated with Mylar. Metalized Mylar laminated with clear Mylar.	Gold, silver and dyeable yarns. 12 additional colors on request. Yarns are also available in silver with special dyeing characteristics.
	Aluminum foil laminated between two plies of viscose film. Aluminum foil between two plies of cellulose/acetate/butyrate. Laminate of aluminum foil with polyester on each side. Metalized polyester laminated with one or more plies of metalized or clear polyester.	Gold and silver, other colors as required. Same as No. 400. Same as above. Gold and silver only.
vailable in standard sizes as noted.		
	Laminate of aluminum foil and Mylar. Laminate of aluminum foil and cellophane. Laminate of aluminum foil and butyrate. Film types (Mylar, cellophane).	Gold, silver, and full range of colors. Gold, silver, and full range of colors (24) as well as duet and varigated. Gold and silver. All transparent and opaque colors.
00 inch.	Aluminum foil laminated between two plies of Mylar.	Gold and silver. Other colors on special orders.
	Aluminum foil laminated between two plies of Mylar. Metalized Mylar laminated to Mylar. Aluminum foil laminated between two plies of butyrate. Aluminum foil laminated between two plies of cellophane.	Gold and silver and wide range of solid colors and multi-colors. Gold and silver and wide range of solid colors and multi-colors. Gold and silver and wide range of solid colors and multi-colors. Gold and silver and wide range of solid colors and multi-colors. *Special colors on request.*
in wider width. nd flock form. either unsup-	Aluminum foil laminated between two plastic films. Aluminum foil laminated between two films of Mylar. Mylar film laminated to metalized Mylar film on either one or both sides. Mylar metalized film with non-lamination.	Gold and silver and wide range of other colros. Same as above. Same as above. Same as above.

YARN PRODUCERS SALES OFFICES

Allied Chemical Corp.
Fiber Marketing Dept.
261 Madison Ave.
New York 16, N. Y.

American Bemberg, Beaunit Div.
261 Fifth Ave.
New York 16, N. Y.

American Cyanamid Co.
Fibers Division
111 West 40th St.
New York 18, N. Y.

American Enka Corp.
Enka, N. C.

American Manufacturing Co., Inc.
Noble and West Sts.
Brooklyn 22, N. Y.

American Thermoplastics Corp.
750 Union Ave.
Union, N. J.

American Viscose Corp.
Fibers Division
350 Fifth Ave.
New York 1, N. Y.

AviSun Corporation
1345 Chestnut St.
Philadelphia 7, Pa.

Beaunit Mills, Inc.
Fibers Div.
261 Fifth Ave.
New York 16, N. Y.

The Carborundum Co.
Buffalo Ave.
Niagara Falls, N. Y.

Celanese Fibers Co.
180 Madison Ave.
New York 16, N. Y.

Chemore Corporation
Two Broadway
New York 4, N. Y.

The Chemstrand Corporation
350 Fifth Ave.
New York 1, N. Y.

Courtaulds (Alabama) Inc.
600 Fifth Ave.
New York 20, N. Y.

Dawbarn Bros., Inc.
Waynesboro, Va.

The Dow Chemical Co.
Textile Fibers Department
Williamsburg, Va.

E. I. du Pont de Nemours & Co., Inc.
Textile Fibers Dept.
Wilmington 98, Del.

Eastman Chemical Products, Inc.
260 Madison Ave.
New York 16, N. Y.

Fair Haven Mills, Inc.
Fair Haven, Vt.

Fairtex Sales
Riegel Paper Corp.
1808 Liberty Life Bldg.
Charlotte 2, N. C.

Firestone Synthetic Fibers Co.
A Division of Firestone Tire & Rubber Co.
45 Rockefeller Plaza
New York 20, N. Y.

Globe Manufacturing Co.
21 Pleasant St.
Fall River, Mass.

Hartford Fibers Co.
A Division of Bigelow-Sanford Inc.
140 Madison Ave.
New York 16, N. Y.

Hercules Powder Co.
380 Madison Ave.
New York 17, N. Y.

Industrial Plastic Co.
216 Tingley Lane
Metuchen, N. J.

Industrial Rayon Corp.
500 Fifth Ave.
New York 36, N. Y.

Industrial Wire & Plastics Co., Inc.
1606 Ithaca Ave.
Spirit Lake, Ia.

Johns-Manville
Fiber Glass Inc.
22 East 40th St.
New York 16, N. Y.

Malina Company
125 West 41 St.
New York 36, N. Y.

Metal Film Co., Inc.
40 Worth St.
New York 13, N. Y

Metlon Corporation
Div. of Acme Backing Corp.
432 Park Ave. So.
New York 16, N. Y.

Multi-Tex Products Corp.
56 Elm St.
Newark 5, N. J.

The National Plastic Products Co.
Odenton, Md.

New Bedford Rayon Division
Mohasco Industries, Inc.
New Bedford, Mass.

North American Rayon Corp.
261 Fifth Ave.
New York 16, N. Y.

Nylco Products, Inc.
530 Main St.
Clinton, Mass.

Nypel Corporation
Ford Bridge
West Conshohocken, Pa.

Owens-Corning Fiberglas Corp.
Textile Products
717 Fifth Ave.
New York 22, N. Y.

Pittsburgh Plate Glass Co.
Fiber Glass Division
One Gateway Center
Pittsburgh 22, Pa.

Poliafil, Inc.
311 Palm St.
Scranton 5, Pa.

Polyarns Inc.
545 No. Main St.
Canandaigua, N. Y.

Reeves Brothers, Inc.
1071 Ave. of the Americas
New York 18, N. Y.

Reynolds Metals Co.
Reynolds Metals Bldg.
Richmond 18, Va.

Skenandoa Rayon Corp.
261 Fifth Ave.
New York 16, N. Y.

Southern Lus-Trus Corp.
1048 Escambia St.
Jacksonville 6, Fla.

Standard Yarn Mills, Inc.
62-05 30th Ave.
Woodside 77, N. Y.

Union Carbide Chemicals Co.
A Division of Union Carbide Corp.
Textile Fibers Department
270 Park Ave.
New York 17, N. Y.

United States Rubber Co.
Textile Division
1230 Ave. of the Americas
New York 20, N. Y.

Vogt Manufacturing Corp.
100 Fenwood Ave.
Rochester 21, N. Y.

TEXTILE — NEWS BRIEFS

Arnel Price Increase

Celanese Fibers Co. last month announced an increase of 5 cents per pound in the price of its 75 denier Arnel triacetate filament yarn. The increase, effective immediately, applies to all types of packages.

Expand Allied Sales Unit

Allied Chemical Corp.'s fiber marketing sales organization has been realigned to provide an expanded sales effort. Included in the changes are a new vertical division of marketing responsibility by end-product, the opening of a sales office in Akron, Ohio, and a rearrangement of existing regional sales offices.

The realignment follows the firm's expansion plans previously announced. New construction will triple heavy yarn capacity at Hopewell, Va., with the monomer and polymer sections scheduled to go on stream this July and the fiber section in August.

James P. Connelly has been named manager of marketing-apparel, and Robert E. Mulcahy as manager of marketing-industrial.

NRMA Fabrics Show Planned

A Fibers, Fabrics and Finishes Exposition, the first of its kind according to its sponsor, the National Retail Merchants Association, will be held at the New York Trade Show Bldg., New York City, on May 20-23, 1962. The exposition will feature the latest developments by manufacturers and mills in the fields of cotton and rayon, domestics, dyes and finishes, synthetic fibers, textile converting, woolens and worsteds, and yarns.

Widen Andrews' Assignments

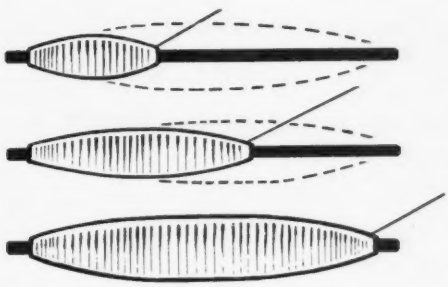
American Viscose Corp. has assigned additional areas of market coverage in its merchandising and product development activities to T. H. Andrews. In addition to Avisco fibers applications in the automotive and transportation trades, Andrews will now supervise contacts in the general nonwoven and filtration trades.

TMW Transfers Plant

Textile Machine Works has transferred its J. L. Ferguson Co. operations from Joliet, Ill., to its Reading, Pa., plant, where it will be known as the Packomatic Division. The Ferguson firm, producers of packaging machinery, was purchased by TMW last April.

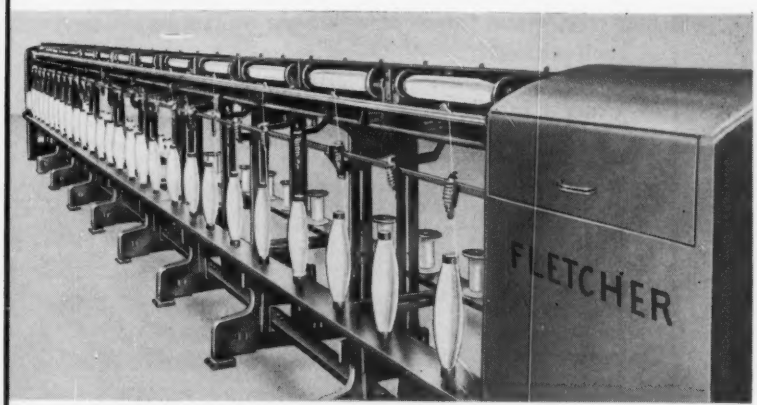
NEW FLETCHER
FILLING WIND REDRAW

WINDS PIRN PACKAGE
WITH CONTINUOUS
TENSION-FREE DELIVERY



Exclusive new method of yarn build-up eliminates tug and pull

Not only provides you with a perfectly controlled package, but eliminates need for coning — and winds at double the speed of a coner.



For high speed winding of Nylon, Glass and all Synthetics

Look for features never expected from a redraw machine. Perfect wound bobbins at high speeds—500 to 750 rpm per 2-pound bobbin . . . filling wind pirn package . . . standard pirn package . . . bottle bobbin and straight bobbin.

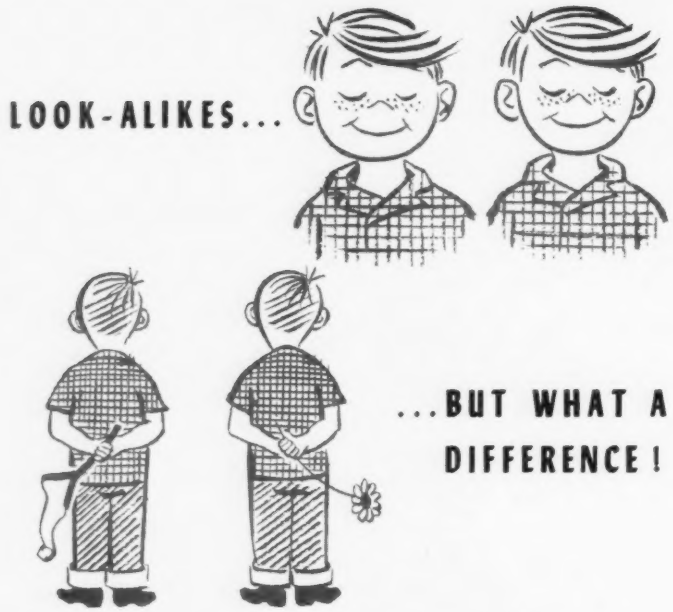
TRY BEFORE YOU BUY with 3-month trial rental plan

Get proof before you pay by evaluating these machines in your own plant. They are available for delivery, completely assembled. See them in operation in the Fletcher Industries Showrooms in Cheltenham (Philadelphia), Pa.

FLETCHER INDUSTRIES
Hasbrook Ave. and Beecher St., Cheltenham (Suburban Phila.), Pa.

FLETCHER SOUTHERN
SOUTHERN PINES, N. C.

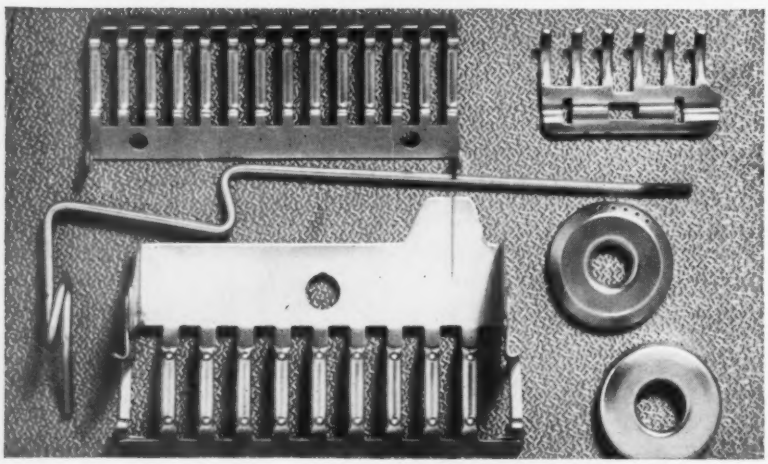
FLETCHER INDUSTRIES
STATESVILLE, N. C.



The fact that all Hard Chromium Plating looks the same may mislead you.

During 26 years of successful experience, we have proven many times to our customers (Some of whom have been with us for 20 years or more) that our fast, efficient service and "know how" mean "dollars in their pockets."

Why go through the trial and error method when we are experts in our chosen field . . . top quality Hard Chromium Plating.



The leading name in textile HARD CHROMIUM PLATING, both satin and polished finish.

Walhard

WALTON and LONSBURY

79 NORTH AVENUE ATTLEBORO, MASSACHUSETTS

Nylon in Contract Carpets

Increased durability of carpets made with continuous filament nylon face yarns should greatly widen the market for commercial soft floor coverings, according to John Gallaher, commercial sales manager for James Lees and Sons Co. "For sheer wear we have found nothing to match these carpets," Gallaher said.

Star Paper Relocates

Star Paper Tube, Inc., a manufacturer of paper products for the textile, carpet and papermill trades, has moved into its new plant at Danville, Va. Star now operates three manufacturing plants near these southeastern industries. The other plants are at Rock Hill, S. C., and Austell, Ga.

Rayon Belting Fabrics

American Viscose Corp. has issued a new technical service bulletin, "XL in Belting Fabrics," which provides full information, complete with charts, on Avisco XL rayon used for industrial applications in conveyor and transmission belting fabrics. *For copies of the bulletin write the editors.*

Tensile Testing Booklet

Melliand Textilberichte, Heidelberg, Germany, has published a new 43-page booklet, "Standard Values For Tensile Testing Of Cotton Yarns." The booklet, printed in English, German and French, contains practical examples for carrying out measurements, evaluating the results, and estimating the quality of cotton yarns with the aid of standard value diagrams. In cooperation with leading European yarn manufacturers, fundamental and reliable standard values for the breaking load and the elongation at break have been established on the Uster Dynamometer by means of tensile tests carried out on all leading qualities of cotton yarns. To order copies write Melliand at Rohrbacherstrasse 76, Heidelberg, Western Germany.

Tex System Calculator

A pocket-size, slide-rule type calculator, which permits easy conversion of common yarn numbers to the new tex universal yarn numbering system, has been prepared by the fibers division of American Cyanamid Co. The calculator eliminates computation in converting denier numbers, cotton and worsted counts or woolen runs into tex units, a standardized numbering system proposed by the American Society for Testing Materials for all branches of the textile industry.

Free single copies of the calculator may be obtained by writing the editors on company letterhead, while the supply lasts.

Dynel Overlays

Uses of protective overlay fabrics of Dynel modacrylic fiber to overcome wear problems, weathering and chemical attack on glass-reinforced plastic laminates are outlined in a booklet issued by the Textile Fibers Department, Union Carbide Chemicals Co. *For copies of the booklet, write the editors.*

Buy Spinning Frames

Saco-Lowell Shops reports that Dyersburg Cotton Products, Inc., has purchased for its Dyersburg, Tenn., plant six SJ MagneDraft spinning frames and one S-L FS-2 roving frame. Dyersburg also has placed orders for future delivery of 10 additional MagneDraft spinning frames and another FS-2 roving frame, Saco-Lowell reported.

Textile Fellowship

Jerome Irwin Barancik has received the first New York Graduate Fellowship in the field of Textile Engineering at Lowell Technological Institute. The fellowship was awarded by the Textile Salesmen's Association. A native of Chicago, Ill., Barancik is employed as a salesman for the Erie Clothing Co. in that city.

Du Pont Olefin Expansion

Du Pont's program of expansion in the field of polyolefin polymers has been broadened to include market development work on polypropylene resins. Du Pont is producing some polypropylene from a pilot plant in Wilmington, Del., but for most of its market development program it will obtain additional material, made to its specifications, from the Hercules Powder Co.

70-Denier Tusson Offered

American Bemberg has added 70-denier yarn to its new Tusson line. The company also announced that Tusson, its slubbed cuprammonium rayon, is now being produced in 12 solution-dye colors, besides black and white, in 450-denier filament yarn.

The 70-denier yarn has been designed for fabric blends with fine yarn types. The new solution-dye colors are color-fast under hard-wear conditions, especially for home furnishings' fabrics. *For further information write the editors.*

AATCC to Move to New York

The American Association of Textile Chemists and Colorists has voted to relocate its national headquarters in New York City. No date for the move has been set but it is expected that plans will be formalized when AATCC's council meets in Buffalo on September 26, prior to the organization's national convention.

Eye Catching Color
Creates a New Fashion Attitude in Synthetic Yarns
package-dyed by GLOBE
Your current style interpretations will assuredly be enhanced when they are provided with the eye-catching brilliance, sparkle, and long-lasting good looks of Globe-dyed synthetic yarns.
Globe does package dyeing on tubes, skein and warp dyeing, warp bleaching and sizing.
Yarns processed include cotton, worsted, linen, blend and novelty yarns, and all synthetics including Arnel®, Creslan®, Orlon® (Turbo, Hi-bulk and Sayelle) and Zefran.®
Globe Dye Works Co.
Since 1865
4500 WORTH STREET
PHILADELPHIA 24, PA.
JEfferson 5-3301

New Textile Patents

Two patents of interest to the textile industry have been granted by the U.S. Patent Office, Washington, D. C.

Patent No. 2,988,799, covering a process for treating yarns, filaments and fibers, was granted to Everett C. Atwell, who assigned it to Burlington Industries, Inc. The process produces, by a new method, a uniformly crimped, heat set yarn of thermoplastic synthetic linear polymer.

Patent No. 2,988,802 was granted to two Japanese, Tsukumo Tomonari (deceased) and Michijiro Akaboshi. One-fourth of the patent has been assigned to Air Reduction Co., Inc., U.S.A., and three-fourths to Kurashiki Rayon Co., Ltd., Japan. It covers an apparatus and process for up-spinning polyvinyl alcohol fibers or filmaments It produces a textile fiber which consists essentially of polyvinyl alcohol with a distinct core and skin part.

Vyrene Output Expanded

United States Rubber Co. recently announced an expansion program at its Gastonia, N. C., plant that will double production facilities of Vyrene, the company's new spandex thread. The expansion will be completed by the end of August. It is the second expansion of these facilities this year.

Demand for Vyrene exceeds supply, William E. Clark, vice president and general manager, said. "There will be still further expansions of our Vyrene production facilities in the third and fourth quarters of this year to meet this growing demand."

"This season Vyrene gained acceptance among manufacturers of swimwear because of its lightness and elasticity. Manufacturers of foundation garments and brassieres have adopted Vyrene for their fall lines," Clark added.

Vyrene is a synthetic elastic thread than can be made in a wide range of sizes, some almost as fine as a human hair. It was developed in the rubber company's research laboratories during 10 years of research in the field of polyurethane chemistry.

Vyrene supplements and broadens the range of the company's line of Lastex yarns which have been on the market for the last 30 years. Vyrene can be drycleaned, and has excellent oxidation and chafe resistance. Current research on Vyrene includes the development of sheer fabrics for dresses, lingerie, ladies' slacks, men's suitings and sportswear.

TSA to Hear Robison

James E. Robison, president of Indian Head Mills will be the principal speaker at the Annual Fall Luncheon of the Textile Salesmen Association at the Statler Hilton Hotel, in New York City on October 26. Reservations to attend the luncheon may be made through the Association's headquarters, 22 East 38 St., New York City.

Acrylonitrile Price Cut

A reduction in the price of acrylonitrile from 23 cents to 14½ cents a pound was announced recently by American Cyanamid Co., Union Carbide Corp., and Monsanto Chemical Co. All three are important producers of the chemical. Two-thirds of American consumption of acrylonitrile goes into manmade fibers.

Designers of plants and machinery for man-made fibers and films

CHEMTEX inc.

850 Third Avenue, New York 22, N.Y. • PLaza 2-5220

cable address: USACHEMTEX, N.Y.

Custom Designed Machinery, Pilot Plants,
Production Plants, Process Development,

for manufacturing of
Man-made Fibers and Films
from
Natural and Synthetic Polymers.

Chemtex

U. S. MAN-MADE FIBER PRICES

This schedule lists the prices of yarn, staple and tow as reported by the producers in August 1961. All prices are given to change without notice.

CELLULOSIC YARNS

ACETATE

American Viscose Corp.

Current Prices Effective March 22, 1960

Bright and Dull

Denier & Filaments	Intermediate Twist** Cones	Twister T-Tubes	Warps	Spinning Twist Cones & C-Tubes	Warps
40/11	$	$	$	$	$1.14
45/14	....	....	....	....	1.03
55/14-20	.99	.97	1.00	.93	.87*
75/18	....	....	....	....	.90
75/20	.95	.93	.96	.89	.90
100/28	.91	.89	.92	.85	.86
120/32	.82	.80	.83	.76	.77
150/36	....	....	....	....	.70
150/41	.74	.73	.75	.69	.70
200/54	.70	.69	.71	.66	.67
240/80	....	....	....	.65	.66
300/80	.66	.65	.67	.62	.63

* Tricot Spools Only.
** Standard Twist 2¢ Additional.
Terms: Net 30 Days.

Celanese Fibers Company

Current Prices Effective March 22, 1960

Acetate Filament Yarn Prices
Bright and Dull

Denier and Filaments	Intermediate Twist 4 & 6-Lb. Cones	Beams	4-Pound Cheeses	Spinning Twist Cones	Beams	O Twist Tubes
45/13	$1.12	$1.13	$	$	$1.03*	$ ....
55/15	.99	1.00	....	....	.87*	.82
75/20	.95	.96	....	.89	.90	.86
75/50	.97	.98	....	....	.92	....
100/26-40	.91	.92	....	.85	.86	....
120/40	.82	.83	....	.76	.77	....
150/40	.74	.75	.74	.69	.70	....
200/52	.70	.71	....	.66	.67	....
240/80	.68	....	....	.64	....	....
300/80	.66	.67	....	.62	.63	....
450/120	.66	.67	....	.62	.63	....
600/160	.65	.66	....	....	....	....
900/80-240	.63	.64	....	....	....	....

* Tricot beams only. This item with Permachem—$.05 additional.
3T/10 electrical finish available at no premium.

3 to 5 turns on Cones or Beams	$.02 Additional
Over 5 turns—55 denier	$.06 Additional per Turn
Over 5 turns—75 denier	$.04 Additional per Turn
Over 5 turns—100 denier	$.03 Additional per Turn
Over 5 turns—150 denier & coarser	$.02 Additional per Turn
150 Denier 12-TM Tubes	$.73
3 Pound Cheeses	$.01 Less than 4-lb. Cheeses
2-BU and 4-BU Tubes	Same price at 4 & 6-lb. cones
Premium for Serving Tubes	$.05
Part Cone Premiums: 2-lbs.	$.05
1-lb.	$.10
Under 1-lb.	$.20

Celaperm Filament Yarn Prices

Denier and Filaments	Intermediate Twist 4 & 6-Lb. Cones	Beams	Spinning Twist Cones	Beams
55/15	$1.37	$1.38	$1.31	$1.32
75/20	1.34	1.35	1.28	1.29
100/26	1.28	1.29	1.22	1.23
120/40	1.19	1.20	1.13	1.14
*150/40	1.11	1.12	1.06	1.07
200/104	1.05	1.06	1.01	1.02
300/80	1.01	1.02	.97	.98
450/120	.99	1.00	.95	.96
600/160	.97	.98	....	....
900/240	.94	....	....	....

* 150/2Z/40 available in all colors. Contact our District Sales Representative for current availability of colors in other denier.

Over 5 turns—55 denier	$.06 Additional per Turn
Over 5 turns—75 denier	$.04 Additional per Turn
Over 5 turns—100 denier	$.03 Additional per Turn
Over 5 turns—150 denier & coarser	$.02 Additional per Turn

Celaperm Black Yarn Prices

Effective March 22, 1960

Denier and Filaments	Intermediate Twist 4 & 6-Lb. Cones	Beams	Spinning Twist Cones	Beams
55/15	$1.17	$1.18	$1.11	$1.12
75/20	1.14	1.15	1.08	1.09
100/26	1.08	1.09	1.02	1.03
120/40	.99	1.00	.93	.94
150/40	.91	.92	.86	.87
200/52	.85	.86	.81	.82
300/80	.81	.82	.77	.78
450/120	.79	.80	.75	.76
600/160	.77	.78	....	....
900/80	.74	....	....	....

3 to 5 turns on Cones or Beams	$.02 Additional
Over 5 turns—55 denier	$.06 Additional per Turn
Over 5 turns—75 denier	$.04 Additional per Turn
Over 5 turns—100 denier	$.03 Additional per Turn
Over 5 turns—150 denier & coarser	$.02 Additional per Turn

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.
Prices subjet to change without notice.
All previous prices withdrawn.
Note: Prices on unlisted items can be obtained upon request.
Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.
Current Prices

"Acele"* Acetate
Bright and Dull

Denier & Filament	Zero Twist Tubes	Beams	Low Twist Cones	Beams	Intermediate Twist 2 & 4 Lb. ⅝" Tbs.	4 & 6 Lb. Tw. Tbs.	Cones	Beams
45-13	$.94	$1.02						
55-18	.82	.86						$1.00
55-24	.82	.86						1.00
75-24	.86	.89		$.90			.95	.96
75-50				.92				.98
100-32	.82	.85	$.85	.86		$.89	.91	.92
120-50	.73	.76		.77			.82	.83
150-40	.66	.60	.69	.70			.74	.75
200-60	.65		.66				.70	
240-80		.65	.65				.69	
300-80	.60	.62	.62	.63			.66	
450-120	.61		.62				.66	
600-160					$.65		.65	
900-44					.63***			
900-240	.61**						.63	
1800-88					.61***			.62***
2700-132					.61***			
3000-210					.61			

1800 Type 20 only.
(B) 1 lb. ⅝" Tubes—add $.02 to 2 & 4 lb. ⅝" Tube Price.
** Bright only 2" Tubes.
*** Type 20 only.

Color-Sealed

Denier & Filament	Zero Twist Tubes	Beams	Low Twist Cones	Beams	Intermediate Twist Cones	Beams
75-24	$1.18	$1.28		$1.29	$1.34	$1.35
100-32	1.14			1.23	1.28	1.29
150-40	1.03	1.06	$1.06	1.07	1.11	1.12
300-80		.97			1.01	1.02

Black

Denier & Filament	Zero Twist Tubes	Beams	Low Twist Cones	Beams	Intermediate Twist 4 & 6 Lb. Tw. Tbs.	Cones	Beams
75-24	$.98	$1.08		$1.09		$1.14	$1.15
100-32	.94			1.03	$1.06	1.08	1.09
150-40	.83	.86	$.86	.87		.91	.92
300-80	.75	.77				.81	.82
900-44					.74*	.74	

* 2 & 4 lb. ⅝" tbs. is same price as 4 & 6 Tw. Tbs.

Specialty Yarns
Cycloset for Tricot

	Tubes	Beams
40-13 Natural	$1.07	$1.14
55-18/24 Natural	.83	.87
75-24 Natural	.87	.90
100-32 Natural	.83	.86
40-13 Black	1.22	1.29
55-18 Black	1.08	1.12

Terms: Net 30 days. Subject to change without notice.
Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.
* Dupont's Trademark for its acetate yarn.

Eastman Chemical Products, Inc.

Tennessee Eastman Co.
Current

"Estron"* Yarn, Bright and Dull — White

Denier & Filament	Regular Twist Cones	Beams	Intermediate Twist Cones	Beams	Low Twist Cones	Beams	Zero Twist Tubes	Tricot Beams Spun Twist	Zero Twist
55/13	$1.01	$1.02	$0.99	$1.00	$0.93	$0.94	$0.82	$0.87	$0.86
75/19	.97	.98	.95	.96	.89	.90	....	.90	....
75/49	.99	1.00	.97	.98	....	....	....	....	....
100/25	.93	.94	.91	.92	.85	.86	....	....	....
120/30	.84	.85	.82	.83	.76	.77	....	....	....
150/38	.76	.77	.74	.75	.69	.70	.66	....	....
200/50	.72	.73	.70	.71	.66	.67	....	....	....
300/75	.68	.69	.66	.67	.62	.63	.60	....	....
450/114	.68	.69	.66	.67	.62	.63	....	....	....
600/156	.67	.68	.65	.66	.62	.63	....	....	....
900/230	.65	.66	.63	.64	....	....	.61	....	....
Heavier	....	....	....	....	....	....	.56	....	....

Current

"Chromspun"*—Standard Colors (Except Black)

Denier & Filament	Regular Twist Cones	Regular Twist Beams	Intermediate Twist Cones	Intermediate Twist Beams	Low Twist Cones	Low Twist Beams
55/13	$1.34	$1.35	$1.32	$1.33	$1.26	$1.27
75/19	1.31	1.32	1.29	1.30	1.23	1.24
100/25	1.25	1.26	1.23	1.24	1.17	1.18
150/38	....	....	1.06	1.07	1.01	1.02
300/75	....	....	.96	.97	.92	.83
450/114	....	....	.94	.95	.90	.91
900/230	....	....	.89	.90	....	....

Current Prices

"Chromspun"*—Black

Denier & Filament	Regular Twist Cones	Intermediate Twist Cones	Intermediate Twist Beams	Low Twist Beams
55/13	$1.19	$1.17	$1.18	$1.12
75/19	1.16	1.14	1.15	1.09
100/25	1.10	1.08	1.09	1.03
150/38	.93	.91	.92	.87
200/50	.87	.85	.86	.82
300/75	.83	.81	.82	.78
450/114	.81	.79	.80	.76
900/230	.76	.74	.75	....

Prices are subject to change without notice.
Prices on special items quoted on request.
Terms: Net 30 days. Payment—U. S. A. dollars.
Transportation charges prepaid or allowed to destination in continental United States except Alaska. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.
* "Estron" is a trade-mark of the Eastman Kodak Company.
* Chromspun is a trade-mark of the Eastman Kodak Company.

RAYON

American Bemberg

Current Prices

Regular Production Reel Spun Yarn

Den/Fil	No Twist Skeins	Twisted Skeins & Cones	8½ Turns	High Twist Skeins & Cones 12 Turns	15 Turns	18 Turns
40/30	$1.49	$1.95	....	....	....	$2.08
50/36	1.29	1.55	....	....	....	1.85
65/45	1.22	1.38	....	$1.61	....	1.66
75/60**	1.11	1.25	....	1.48	$1.53	1.56
100/74**	1.02	1.15	....	1.40	1.45	1.51
125/60	1.01	1.12	$1.16	1.37	....	....
150/120	.99	1.08	1.18	1.33	....	....
300/225	....	1.01	....	....	1.14	....
900/744	....	.91	....	....	....	....
1800/744	....	.91	....	....	....	....

* Includes twists up to 6 turns on 40 and 50 denier, and up to 5 turns on heavier deniers.
** Spun Dyed Cupracolor Black 15¢ per lb. extra.

"4" HH Spool Spun Yarn

Den/Fil	No Twist Tubes	No Twist Beams	5 Turn Beams	5 Turn Cones	12 Turn Beams	12 Turn Cones	15 Turn Cones
40/30	$1.35	$1.35	....	....	....	....	....
50/36	1.05	1.05	....	....	....	....	....
65/45	1.13	....	....	....	....	$1.50	....
75/45*	1.04	....	$1.15	$1.15	$1.38	1.38	$1.46
100/60*	.96	....	1.10	1.10	1.30	1.30	1.38
125/60	.91	....	1.06	1.06	....	....	....
150/90*	.83	....	.87	.87	1.21	1.21	1.30
150/120	.87	....	....	.99	....	....	....

* Available also in Spun Dyed Cupracolor Black at 15¢ per lb. extra.

"44" HH "Parfe" Spool Spun Yarn

Den/Fil	No Twist Cones	5 Turn Cones	5 Turn Beams	12 Turn Cones	15 Turn Cones
50/36	$1.60	$1.85	$1.85	....	....
75/45	1.48	1.58	1.58	$1.78	$1.88
100/60	1.38	1.48	1.48	1.68	1.78
150/90	1.21	1.28	1.28	1.63	1.73
300/120	1.21	1.28	....	....	....

Nub-Lite (Short Nubbi)

Code	Den/Fil	2½ Turn Natural Cones	2½ Turn Cones*	5 Turn Natural Cones	5 Turn Cones*
1515	160/90	....	....	$1.50	$1.40
1519**	155/90	....	....	1.50	1.40
2008***	200/120	....	....	1.11	1.01
3002	315/180	$1.15	$1.05	....	....
4011	410/224	1.15	1.05	....	....
6001	600/360	1.13	1.03	....	....
8001	860/450	1.13	1.03	....	....

* Basic price for cones when dyed. Dyed Colors 30 and 35 cents above basic price. Prices based on 200 lb. dyed lots only. Prices for natural yarn skeins same as natural cone prices.
** Code 1519 can be run in warp or filling.
*** Available in 10 turns at 5¢ extra per pound.

CUPIONI Type B

Code	Den/Fil	2½ Turn Cones
9650	70/45	$1.69
9660	100/60	1.53
1545	150/90	1.35
9730	285/135	1.15
9792	450/225	1.15
9819	600/372	1.12
9837	940/372	1.02

"Spun Dyed Cupracolor is spun 150, 285, and 940 deniers at 35¢ per pound extra. Cupracolor Black comes in all deniers."

STRATA SLUB

Code	Den/Fil	Twisted Cones	Price
9747	275/225	3½ Turns	$1.25
9798	450/372	2½ Turns	1.15
9823	600/372	2½ Turns	1.10
9847	960/372	2½ Turns	1.02
9885	1290/372	1½ Turns	1.00
9934	2680/744	1½ Turns	1.00

"Spun Dyed Cupracolor is spun in 600 and 960 deniers at 35¢ per pound extra."

FLAIKONA

Code	Den/Fil	Twisted Cones	Price
9699	150/148	2½ Turns	$1.35
9769	300/224	2½ Turns	1.25
9782	450/270	2½ Turns	1.05
9809	600/360	2½ Turns	1.05
9840	900/450	2½ Turns	1.00
9924	2000/744	2½ Turns	.95

TUSSON

Code	Den/Fil	2½ Turn Cones	3½ Turn Cones
9668	100/60	....	1.58
9678	150/90	$1.35	....
9745	285/135	1.15	....
9783	450/225	.85	....
9821	600/372	.80	....
9828	940/372	.75	....

Spun Dyed Cupracolors 30¢ extra per lb.
Available in 450 denier only.
Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices are subject to change without notice.

American Enka Corp.

Current Prices
Effective February 29, 1960
Standard Quality Yarns

NATURAL

Den./Fil.	Luster	Turns		Weaving Cones	Weaving Beams	Skeins Long	Skeins Short	Cakes	Knitting Cones
50/18	E	5	S	....	....	....	....	....	1.63
50/20	B	4	S&Z	....	....	....	....	1.52	1.64
75/10	B	3	S&Z	....	....	....	....	1.02	....
75/18	E	4	S	....	....	....	....	....	1.14
75/30	B	2.5,4	S&Z	1.14	1.14	1.32	1.41	1.02	1.14
75/30	B	8	S	1.24	....	1.49	1.59	1.12	1.24
75/45	P,E	2.5,4,5	S&Z	1.14	1.14	1.32	1.41	1.02	1.14
75/60	B,P	3,4	Z	1.16	....	....	....	1.04	....
100/14	B	3	S&Z	....	....	1.15	1.23	.90	....
100/40	B,E	12	S&Z	....	....	....	....	....	1.29
100/40	B,P,E	4,5	S&Z	.98	....	....	....	.90	.98
100/40	B	6	S	1.17	....	1.34	1.44	1.09	....
100/40	B,P	2.5,4	S&Z	.98	.98	1.15	1.23	.90	....
100/60	B	4	S&Z	....	....	....	....	.90	....
100/60	E	2.5	S	1.00	1.00	....	....	.92	....
125/40	E	3	Z	....	....	....	....	.87	.90
125/50	B,P	3	S	.96	.96	....	....	....	....
150/40	B,E	0		.745	....	....	....	....	....
150/40	B,P,E	2.1,3	S&Z	.82	.82	.96	1.03	.78	.82
150/40	B,E	5	S&Z	.90	.90	1.15	1.25	.86	....
150/40	B,E	8	S&Z	.95	.95	1.20	1.30	.91	....
150/60	B	3.0	S	.82	.82	....	....	....	....
150/90	E	2.1	S&Z	.83	.83	....	....	.79	....
200/40	B	2.1	S	.81	.81	.94	1.01	.77	....
200/40	P	3	Z	....	....	.94	1.01	.77	.81
250/60	P,E	2.4	Z	....	....	.93	1.00	.77	.80
300/30	E	3	S	.81	.85	....	....	....	....
300/40	B	3.2	Z	.73	.73	....	....	....	....
300/50	B,E	3	S	.73	.76	....	....	....	....
300/60, 120	B,P,E	2.1	S&Z	.73	.73	.82	.89	.71	.73
300/60	B	3.5	S	.73	.73	.82	.89	.71	....
300/60	B	6	S	.86	.86	....	1.00	.84	....
300/120H.T.	B	2.5	S	.75	.75	....	....	.73	....
450/60	B	3	S	.69	.71	....	....	.67	....
450/80	B,E	3	S	.69	.71	.78	.85	.67	....
600/80	B,E	3	S	.73	.75	....	....	....	....
600/120	B,E	3	S	.69	.71	.78	.85	.67	....
900/50	B	3	S	.69	.71	....	....	.67	....
900/120	B	3.4	S	.69	.71	.78	.85	.67	....
900/120H.T.	B	3.4	S	71	.71	....	....	.69	....

B = Briglo
P = Periglo (Semi-Dull)
E = Englo (Dull)
H.T. = High Tenacity

Jetspun® (Colored Yarns)

Den./Fil.	Tenacity	Turns	Weaving Cones	Beams	Colors
100/40	Regular	2.5S	$1.35	$1.35	All
150/40	Regular	2.1S	1.17	1.17	All
200/40	Regular	8.0S	1.28	1.28	All
300/120	Regular	2.1S	1.09	1.09	All
450/80	Regular	3.0S	1.05	1.05	All
600/80	Regular	3.4S	1.04	1.04	All
300/40	High	3.4S	1.11	1.11	All
900/120	High	3.4S	1.06	1.06	All

® Registered Trade Mark for American Enka Solution-dyed Rayon Yarn.

Skyloft® (Lofted Rayon Filament Yarns) Natural and Jetspun®

Denier	Denier per Filament	Twist	Cones or Tubes Natural	Cones or Tubes Black	Other Colors
5300	15	3.0S&Z	$.65	$.75	$.82

Registered Trademark for American Enka Texturized yarn.

American Viscose Corp.

Effective October 13, 1959

Graded Yarns

Denier	Filament	Type	Short Skeins	Long Skeins	Cones Tubes	Beams Spools	Cakes
			Regular Turns				
75	10-30	Bright	$1.41	$1.32	$1.14	$1.14	$1.02
75	30	Dull	....	....	1.14	1.14	1.02
100	14-40	Bright	1.23	1.15	.98	.98	.90

*ASTON

* the ONE product finish...

which gives to such fabrics as:

Dacron*-62-Dacron 54 Crepe
Dacron-Cotton Batiste
Dacron-Cotton Broadcloth
Dacron-Rayon combinations

- **Soft and mellow hand.**
- **Freedom from lint in finish room.**
- **Ease of handling by the cutter, i. e., no clinging of foreign matter.**
- **Ease of layout on cutter's table.**
- **Increased absorption for goods to be overprinted.**
- **To the consumer, a durable static-free garment which is more comfortable to wear.**

* Dupont trade mark

ONYX® CHEMICALS

ONYX CHEMICAL CORPORATION
190 Warren Street, Jersey City, New Jersey

HOW A TALCOTT FACTORING PLAN CAN GIVE YOU COMPETITIVE ADVANTAGES

Funds are readily available beyond the usual advance on accounts receivable for seasonal needs, for inventory, expanded sales and to finance mergers or retiring partners.

Our *liberal* credit policies are determined by experienced credit executives who specialize in the textile industry.

Our intimate knowledge of the unusual needs of this industry enables us to give immediate credit approvals for your merchandise without fear of credit problems.

To find out how a *Talcott Factoring Plan* can help you — *TALK TO TALCOTT.*

For booklet "Four Keys to Business Growth," write to Joseph A. Zeller, James Talcott, Inc., 225 Park Avenue, South, New York 3, New York.

OUR SECOND CENTURY — JT — FOUNDED 1854 — FACTORING AND FINANCING

James Talcott, Inc.

225 PARK AVENUE SOUTH, NEW YORK 3, N.Y. ORegon 7-3000
Other offices or subsidiaries:
CHICAGO · DETROIT · MINNEAPOLIS · BOSTON · ATLANTA · LOS ANGELES · SAN FRANCISCO

100	60	Dull	....	....	1.00	1.00	.92
150	24-40	Bright	1.03	.96	.82	.82	.78
150	40	Semi-Dull	1.03	.96	.82	.82	.78
150	40	Dull	....	....	.82	.82	.78
150	90	Dull	....	....	.83	....	.79
200	10-44	Bright	1.01	.94	.81	.81	.77
250	60	Semi-Dull & Dull	1.00	.93	.80	.80	.77
300	15	Bright	....	.85	.78	.78	....
300	30	Dull Flat Filament	....	....	....	.85	....
300	44	Bright & Dull	.89	.82	.73	.73	.71
300	234	Dull	....	....	.83	....	.81
450	60-100	Bright	....	.78	.69	.71	.67
600	100	Bright & Dull	....	.78	.69	.71	.67
900	50-100-150	Bright	....	.78	.69	.71	.67
1200	75	Bright	....	.78	.69	.71	....
2700	150	Bright	....	.78	.69	.71	....

Extra Turns Per Inch

150	40	Bright	6-Turns	$1.25	$1.15	$ .90	$ .90	$ .88
200	44	Bright	6-Turns	....	1.05	.96	.96	....
300	15	Bright	5-Turns	....	....	.86	.86	....
300	44	Bright	4.3-Turns	....	....	.81	....	.79
300	44	Bright	6-Turns	.97	.90	.86	.86	.84
300	120	Rayflex	6-Turns	....	....	.93	.93	....
600	30	Bright	5-Turns	....	.86	.82	.82	.80

Rayflex Yarns

150	40-60	Rayflex	$	$	$ .85	$ .85	$ .81
200	75	Rayflex	....	....	.84	.84	.80
300	60-120	Rayflex	....	....	.75	.75	.73
450	120	Rayflex	....	....	.71	.71	.69
600	234	Rayflex	....	....	.71	.71	.69
900	350	Rayflex	....	.80	.71	.71	.69

Spun Dyed Yarns

Denier	Type	Cones/Tubes Beams/Spools
75	Regular Strength	$1.71
100	Regular Strength	1.35
150	Regular Strength	1.17
200	Regular Strength	1.14
300	Regular Strength	1.09
450	Regular Strength	1.05
600	Regular Strength	1.05
900	Regular Strength	1.05
300	High Strength	1.11
450	High Strength	1.06
900	High Strength	1.06

Avicron Yarns

Avicron Yarns

Denier	Filament		Cones/Tubes Beams/Spools
1800	100-200	Singles & 2 Ply	$.61
2700	150-300-980	Singles & 2 Ply	.58
2700	980	Singles 5 TPI	.61

Viscose Filament Yarns

The following material deposit charges are required:

Metal Section Beams		$170.00 each
Metal Section Beam Racks		75.00 each
Metal Tricot Spools	14" flange	30.00 each
	21" flange	60.00 each
	32" flange	150.00 each
Metal Tricot Spool Racks	14" flange	135.00 each
	21" flange	100.00 each
	32" flange	75.00 each
Wooden Tricot Spool Crates		20.00 each
Cloth Cake Covers		.05 each

Same to be credited upon return in good condition—freight collect.

Celanese Fibers Company

Effective October 12, 1960

Viscose Rayon Filament Yarn Prices—Bright and Dull

Denier/Fil/Twist		Beams	Cones	Cakes
75/30/2Z		$1.11		
75/30/3		1.11	$1.10	$.98
100/40/2Z		.97		
100/40/3		.97	.96	.88
100/40/5			1.02	.95
100/60/2Z	NS	.97	.96	
100/60/3			.98	.90
125/40/2Z		.95		
125/40/3		.95	.94	.87
150/40/0	NS		.74½	
150/40/2Z		.81		
150/40/3		.81	.79½	.76
150/40/5			.90	.86
150/40/8			.95	.91
150/40/10			.98	.94
150/90/0	NS		.77½	
250/60/0	NS		.74	
250/60/3			.80	.77
300/50/0	NS		.70	
300/50/2Z		.72		
300/50/3		.72	.70½	.69
450/60/0	NS	.68	.67	
450/60/3		.70	.69	

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U. S. A.

Prices subject to change without notice.
All previous prices withdrawn.
Prices on unlisted items can be obtained upon request.
Orders are subject to conditions of sale appearing on our acknowledgments of orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices
Effective May 11, 1961

Bright and Dull

Den.	Fil.	Turns/Inch Up to		Beams	Cones (A) Tubes	Cakes
40	20	3	Textile "Cordura"*		$1.97	$1.92
50	20	3	Textile "Cordura"		1.72	1.67
50	35	3	Textile "Cordura"		1.77	
75	30	3		$1.14	1.14	1.02
100	40	3	Bright	.98	.98	.90
100	60	3	Dull		1.00	.92
125	50	3		.96	.96	.87
150	40	3		.82	.82	.78
150	60	3	Bright	.82	.82	.78
150	60	3	Textile "Cordura"		.875	.845
150	90	3	Dull		.83	
150	100	3	Dull		.83	
300	50	2.5		.73	.73	.71
300	120	3	Textile "Cordura"	.74	.74	.72
450	72	3		.71	.69	.67
600	96	3	Bright	.71	.69	.67
600	240	3	Textile "Cordura"	.72	.70	
900	50	3	Bright	.71	.69	.67
900	144	3	Bright	.71	.69	.67
2700	150	3	Bright	.71	.69	

Thick and Thin

150	90	3	#7 Bright	1.08	
200	80	3	#7 Bright	1.08	
450	100	3	#7 Bright	.92	
1100	240	3	#60 Bright	1.03	
2200	480	3	#60 Bright	.98	

Plush

300	30	3	Dull		.85	

(A) 2¢/lb. additional for cones less than 3#.
Terms: Net 30 days.
Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.
* "CORDURA" and "SUPER CORDURA" are Du Pont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Co.,—Div. of Midland-Ross

Effective June 15, 1961

Continuous Process Textile Yarns

Denier	Filament	Turns per In.	Type	Beams	2.8# Cones	4.4# Cones and Tubes
150	40	2.5"S"	Dull	.82	.82	
150	40	2.5"S"	Bright	.82	.82	
200	20	2.5"S"	Bright	.81	.81	
300	44	2.5"S"	Bright	.73	.73	
450	60	2.0"S"	Bright	.69		.69
600	90	1.5"S"	Bright	.69		.69
900	50	2.0"S"	Bright	.69		.69
900	150	2.0"S"	Bright	.69		.69
1100	480	2.0"Z"	Bright-extra strong	.66		.66

Lustre #4 is semi-dull.
Prices are subject to change without notice.

Strawn Monofilament

Denier	Filament	Turns per In.	Type	4.4# Cones	Spools and Tubes
450	1	0	Bright and Dull	1.00	1.05
1250	1	0	Bright and Dull	1.00	1.05

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points in continental United States except Alaska.
Prices are subject to change without notice.

North American Rayon Corp.

Current Prices

Denier/Filament	Twist	Knitting* Cones	No Twist Knitting Cones	Weaving Cones, Velvet Cones, Beams, Tubes**	Untreated Cakes
Normal Strength Yarns — NARCO					
75/30	3.5			1.14	1.02
75/30	7			1.27	
75/30	12			1.35	
75/30	15			1.37	
75/30	20			1.40	
100/40/60	3.5			.98	.90
100/40	12			1.22	
125/25/60	3			.96	.87
125/52	10			1.13	
150/42	0		.74½		
150/42/60	3	.80½		.82	.78
300/75	0		.71		
300/75	3	.73		.73	.71
900/46	2.5	.69		.69	
1800/92	2.5	.69		.69	

* Oiled Cones $.01 per pound extra for Graded Yarns only.
** 1 lb. Tubes $.02 per pound extra for Graded Yarns only.
"Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices are subject to change without notice."

let's talk about...

POLYLUBE
FFN
SPECIAL

. . . Laurel's versatile finishing agent

Now is the time to join the industry swing to POLYLUBE FFN . . . Laurel's new, *improved*, non-ionically dispersed polyethylene emulsion. These advantages tell why it is best for use in your plant:

. . . POLYLUBE FFN's superior lubricating properties at high temperatures make it an ideal high-speed sewing thread lubricant.

. . . POLYLUBE FFN imparts a soft springy hand to piece goods— improves the drape as well as sewing and cutting properties.

. . . POLYLUBE FFN, applied to resin-treated goods materially increases both tear strength and crease resistance.

. . . POLYLUBE FFN is stable to acids, alkalies, and salts even in very high concentrations for extended periods of time.

Like to know more about this versatile Laurel finishing agent? Write for complete details and a generous sample. No obligation, of course.

Laurel Brand — OVER 50 YEARS OF SERVICE TO INDUSTRY

Laurel
SOAP MANUFACTURING CO., INC.
TIOGA, THOMPSON & ALMOND STS. • PHILA. 34, PA.

Warehouses: Paterson, N.J. Chattanooga, Tenn. Charlotte, N.C. Greenville, S. C.

Introducing

SATIN FINISH*

a new ring finish with all the Diamond Finish qualities of hardness, tolerance and roundness ...plus attractive cost savings ◆ details on request

*TM APPLIED FOR

WHITINSVILLE (MASS.) SPINNING RING CO.
DIAMOND FINISH
Makers of Spinning and Twister Rings since 1873

Rep. for Ala., Ga., & Tenn.: H. L. WILLIAMS, Box 222, West Point, Ga.

TRIACETATE

Celanese Fibers Company

Current Prices

Arnel Yarn Prices
Bright & Dull

Effective August 11, 1961

Denier and Filaments	Cones	Beams	Thick and Thin Cones
55/LTDZ/15	$	$1.25	$ ....
55/2Z/15	1.32	1.33	....
75/LTDZ/20	....	1.21	....
75/2Z/20	1.26	1.27	....
100/2Z/26	1.14	1.15	....
150/2Z/40	.95	.96	....
200/2Z/40	....	....	....
200/2Z/52	.92	.93	1.25
300/2Z/80	.87	.88	1.23
450/2Z/120	.86	.87	....
600/2Z/160	.85	.86	1.21

3 to 5 Turns on Cones or Beams—$.02 Additional
Premium for Black Arnel—$.25 Per Pound
Premium for Navy Arnel—$.37 Per Pound

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

CELLULOSIC HIGH TENACITY YARN and FABRIC

American Enka Corp.

Effective February 6, 1961

Industrial Yarn Prices

Prices Subject To Change Without Notice

	Denier/Filament	Standard Beams	Standard Cones
TYREX (ENKA—5000)	1100/720	.57	.595
	1650/1100	.51	.535
	2200/1440	.48	50.5
	3300/2160	.48	50.5
TYREX FABRIC (ENKA—5000)	1100/720	.69	
	1650/1100	.60	
	2200/1440	.57	
	3300/2160	.57	
SUPRENKA M	1230/720	.57	.595
	1600/1100	.53	.555
	1800/1100	.51	.535
	1870/1100	.51	.535
	2200/1440	.48	50.5
	2400/1440	.48	50.5
	3650/2160	.48	50.5
SUPRENKA MS	1100/720	.57	.595
	1650/1100	.51	.535
	2200/1440	.48	50.5
	2200/1440 (5.5Z)	.505	.53
	3300/2160	.48	50.5
SUPRENKA 2000—MECHANICAL AND CHAFER	1100/480	.56	.585
	1230/480	.56	.585
	1650/720	.50	.525
	1820/720	.50	.525
High & Low Elongation	2200/960	.47	49.5
	2400/960	.47	49.5
	3300/2160	.47	49.5
	1130/480 (5.0Z)	.60	.60
SUPRENKA 2000—SEWING YARN	1230/480	.65	.65
	1750/720	.55	.55
	1820/720	.54	.54
ENKA H. MOD.	1100/1100	.67	.67
	1650/1644	.61	.61
	2200/2160	.58	.58
HIGH TENACITY	300/40, 300/120	.75	.75
	900/120	.71	.71
REGULAR TENACITY	100/40	.98	.98

American Viscose Corp.

Effective February 9, 1961

Tyrex*
Tyrex* Rayon Tire Yarn

Denier	Filament	Twist	Beams	Cones
1100	980	O	.57	.595
1100	980	Z	.57	....
1650	1500	O	.51	.535
1650	1500	Z	.51	....
2200	1500	O	.48	.505
3300	3000	O	.48	.505

Tyrex* Rayon Tire Fabric

Denier	Filament	Carcass	Top Ply	Breaker
1100	980/2	.69	.69	.69
		Factor Open-525	300-490	115-272
1650	1500/2	.60	.61	.635

Factor—determined by dividing total ends by picks.

* Tyrex—Trademark of Tyrex Inc.

Rayon Tire Yarn
Yarn
High Strength

Denier	Filament	Twist	Unslashed Beams	Unslashed Cones	Slashed Beams	Slashed Cones
1100	490	O	....	....	.56	.585
1150	490	Z	.56	.585	....	....
1650	980	Z	.50	.525	....	....
1650	980	O	....	....	.50	.525
1875	980	Z	.50	.525	....	....
2200	980	O	....	....	.47	.495
Type 120						
1800	1500	O	....	.535	....	....
4400	3000	O	....	....	.48	.505

Chafer Yarn

1100/490 High Strength 5Z Twist	.60	.60

Adhesive Dipped Yarn or Cord

.06 PREMIUM

Cord on cones in regular Tire Yarn twists same as fabric prices.
Other twist combinations—prices quoted on request.
Special packages take premiums indicated:

4.0 oz. Wardwell Tubes	.20
10.5 oz. Wardwell Tubes	.10
1.5 lb. Regular Braider Tubes	.06
3.5 lb. Tubes	.045

Single Yarn—Based on cone price.
Plied Yarn—Based on fabric price.
All yarns sold "Not guaranteed for dyeing"
The following deposit charges are made on invoices:

Beams	$55.00 each
Crates (Metal)	75.00 each
Fabric Shell Rolls	3.50 each

Same to be credited upon return in good condition freight collect.

Rayon Tire Yarn and Fabric

Terms: Net 30 days. Seller to select and to pay transportation charges of common and contract carrier except when shipment moves West of the Mississippi River, in which event the actual cost of transportation to the Mississippi River crossing based on the lowest published freight rate, shall be allowed. Title to pass when merchandise is delivered to consignee. Transportation allowance based on lowest published volume rate shall be granted if merchandise is transported from shipping point in vehicle owned or leased and operated by buyer and title to pass when merchandise is delivered to same.

Price subject to change without notice.

Inferior Yarns—Designated HS-SR	.06 Below First Quality Price
Skein Yarn	.04 Above First Quality Price
Adding 6 Turns to "O" Twist Yarn	.05

"Avisco" Industrial Sewing Thread

Effective March 1, 1961

Denier	Filament	Description	Twist	Package	Price
1100	980	Super "Rayflex" 120	O	9 lb. cone	.64
1100	980	Super "Rayflex" 120	2Z	4 lb. cone	.64
1500	980	Super "Rayflex" 120	O	9 lb. cone	.59
1500	980	Super "Rayflex" 120	2Z	4 lb. cone	.59
1780	1500	Super "Rayflex" 120	O	9 lb. cone	.55
1780	1500	Super "Rayflex" 120	2Z	4 lb. cone	.55

Domestic freight prepaid.
Prices subject to change without notice.

Celanese Fibers Company

Effective December 27, 1955

Fortisan Yarn Prices

Denier	Packages	Natural	Black
30/2.5/40	2 lb. Cones	$3.00 lb.	$3.35 lb
60/2.5/80	4 " "	2.40 "	2.75 "
90/2.5/120	4 " "	2.25 "	2.60 "
120/2.5/160	4 " "	2.05 "	2.40 "
150/2.5/180	4 " "	1.95 "	2.30 "
270/2.5/360	4 " "	1.85 "	2.20 "
300/2.5/360	4 " "	1.85 "	2.20 "

Terms: Net 30 days. Shipments prepaid to any destination in U.S.A.
Prices subject to change without notice.
All previous prices withdrawn.
Prices on unlisted items can be obtained upon request.
Orders are subject to conditions of sale appearing on our acknowledgments of orders.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices Effective May 11, 1961

"Super Cordura"*

Den Fil	Turns/In	Beams	Cones
1100-720	2	.57	.595
1200-720	2		.595
1600-960	2		.555
1650-1100	2	.51	.535
1800-1100	2	.51	.535
2200-1440	2	.48	.505
2400-1440	2	.48	.505

Terms: Net 30 Days.
Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.
* "CORDURA" and "SUPER CORDURA" are DuPont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Co.,—Div. of Midland-Ross

Effective June 15, 1961

Tyron

High Tenacity Yarns and Cords for Industrial Products

Denier	Filament	Turns per Inch	Cones	Beams
1100	720	3.0 "Z"	.585	.56
1150	720	3.0 "Z"	.585	.56
1650	1100	3.0 "Z"	.525	.50
1700	1100	3.0 "Z"	.525	.50
2200	1440	3.0 "Z"	.495	.47
3300	2200	3.0 "Z"	.495	.47

Treated yarns and cords for mechanical rubber goods—plus $.06.
Prices for special put-ups quoted on request.
Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points in the continental United States except Alaska.

Tyrex*
Tyrex* Rayon Tire Yarn

Denier	Filament	Twist	Cones	Beams
1100	720	Z	.595	.57
1650	1100	Z	.535	.51
2200	1440	Z	.505	.48
3300	2200	Z	.505	.48

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges prepaid with transportation allowed at lowest published rate to all points east of the Mississippi River.
* Tyrex—Trademark of Tyrex Inc.

Faster Depreciation Asked

American industry, particularly the textile trade, "needs a shot in the arm and would benefit from capital incentive programs and liberalized depreciation rules," according to James Barringer, vice president, Crompton & Knowles Corp. Recently returned from Europe, the official of the textile machinery manufacturing firm said American industry, plagued by rising plant deterioration, is facing serious handicaps in its competition with European manufacturers who enjoy liberal machinery and equipment depreciation programs.

In pointing up domestic plant obsolescence, Mr. Barringer noted that "America requires an estimated $95 billion in new equipment in order to move into high gear." Singling out the domestic textile industry, he said that two-thirds of the equipment in this field is over-age. He said that only 25% of all textile machines in place in the U.S. were bought in the last 10 years. Imports of foreign cloth have weakened America mills' earning power and their ability to buy more new equipment, he said.

He maintained that "liberal depreciation incentives are an important factor" in the impetus behind the rapid economic growth, plant expansion and modernization programs in Europe.

In commenting further on depreciation allowances, Barringer said the U.S. lags greatly in comparison to foreign industrial countries. On equipment on a 15-year service life for tax purposes, he noted, the U.S. permits about a 12% write-off in the first year compared with roughly 55% in Japan, 40% in Sweden and 33% in Italy. These countries, and other foreign industrial leaders, he claims, have found that accelerated depreciation is a potent stimulus to investment in productive facilities and hence to economic progress.

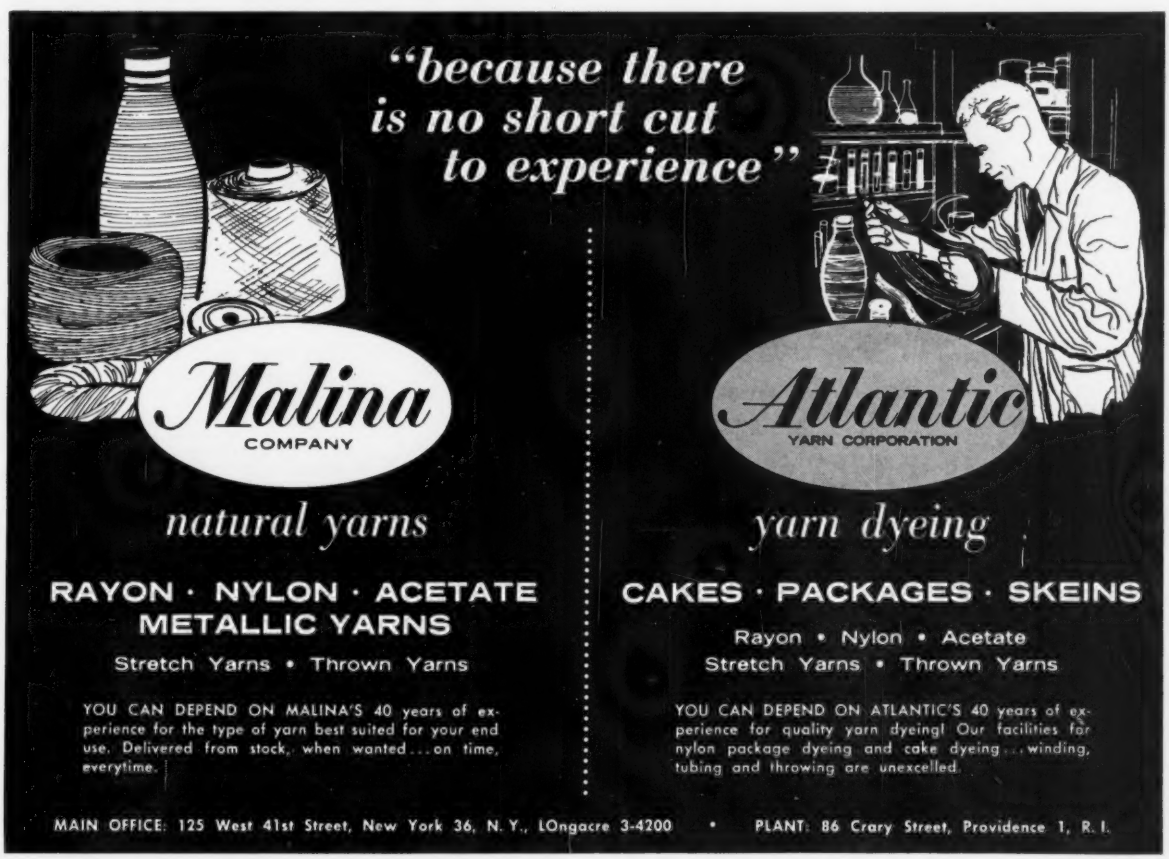
Declaring that the country is not growing at a fast enough rate, Barringer said that it is "essential to close the gap between the United States' annual 2.5% growth in gross national product and the alleged 7% in Russia's GNP."

Midland-Ross Licenses French Firm to Make Its Products

Midland-Ross Corp. has negotiated an agreement with Ameliorair, Societe Anonyme in Paris, France, for the manufacture and sale of a broad range of products of the J.O. Ross Engineering Division of Midland-Ross.

Midland-Ross also will acquire an equity interest in the French company whose present major product lines include textile machinery, industrial ovens and air-conditioning equipment for industry. Ameliorair has four plants in France.

Under the terms of the agreement, Ameliorair is granted the rights for the manufacture, sale and distribution of hoods and ventilating systems used in the pulp and paper industry; ovens and dryers for processing rubber and other materials; ovens, dryers and metal preparation units for paint finishing and metal decorating lines; resin ovens and air heaters. All of these products are manufactured in the United States by the Ross Engineering Division.


"because there is no short cut to experience"
Malina
COMPANY
natural yarns
RAYON · NYLON · ACETATE
METALLIC YARNS
Stretch Yarns • Thrown Yarns
YOU CAN DEPEND ON MALINA'S 40 years of experience for the type of yarn best suited for your end use. Delivered from stock, when wanted...on time, everytime.
Atlantic
YARN CORPORATION
yarn dyeing
CAKES · PACKAGES · SKEINS
Rayon • Nylon • Acetate
Stretch Yarns • Thrown Yarns
YOU CAN DEPEND ON ATLANTIC'S 40 years of experience for quality yarn dyeing! Our facilities for nylon package dyeing and cake dyeing...winding, tubing and throwing are unexcelled.
MAIN OFFICE: 125 West 41st Street, New York 36, N. Y., LOngacre 3-4200 • PLANT: 86 Crary Street, Providence 1, R. I.

North American Rayon Corporation

Current Prices

Super Super High Strength Continuous Yarn Type 710		Cones	Beams
1100/720	1.6Z	.57	.57
1650/720/1100	2.0Z	.51	.51

Tire Cord Fabrics Super Super High Strength Type 710	Rolls
1100/720	.69
1650/720	.60

Terms: Net 30 days, f.o.b. shipping point. Minimum freight allowed to consignee's nearest freight station East of the Mississippi River. To points West of the Mississippi River minimum freight to Memphis, Tenn. allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold f.o.b. delivery point.

Prices are subject to change without notice.

CELLULOSIC STAPLE & TOW

ACETATE

Celanese Fibers Company Effective March 2, 1959

Staple

(Most Deniers Available in Bright or Dull Luster)

Celanese Acetate Staple	
3, 5.5 & 8 Denier (Regular Crimp, Type HC, Type D)	$.36
2, 12 & 17 Denier (Regular Crimp, Type HC, Type D)	.37
35 Denier	.38
50 Denier	.40
Type F—5.5 & 8 Denier	.35
Type F—12 & 17 Denier	.36
Type K—(Available under Celanese License Agreement)	.39
⅝" to ⅞" length (All Deniers)	.03 (Premium)
35 Denier Flat Filament Acetate	.40
Non-Textile Acetate Fibers	.29*

Tow (Celatow)

3, 5.5 & 8 Denier	$.37
2, 12 & 17 Denier	.38
35 Denier	.40
35 Denier Flat Filament Acetate Tow	.42
50 Denier	.42

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

* No transportation allowed (F.O.B. shipping point.)

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

RAYON

American Viscose Corp. Current Prices

Rayon Staple

	Bright and Dull
Regular	$ .28
"Viscose 22"	.28
1.25 Denier	.31
All Other Deniers	.28
Hi-Crimp	.28
Bleached Crimp	
1.5, 3.0 Denier	.315
Smooth	
8.0 & 15.0 Denier Smooth	.30
22.0 Denier	.32
Bleached	.33
Extra Strength	
0.75 Denier	.40
1.0 Denier	.35
XL	
1.0 Denier	.40
1.5, 3.0 Denier	.37
XLI	.34
Fiber 40	
1.0 Denier	.43
1.5 Denier	.40

Spun Dyed Black Staple

1.5, 3.0, 5.5 Denier	.35
15.0 Denier crimped	.38

Prices of other colors on request.

Tow

1.5, 3.0, 5.5 Denier	.35
9.0 Denier	.37
15.0, 20.0 Denier	.38
Color spun black tow	.42

Terms: Net 30 days.

American Enka Corp.

Current Prices Effective April 1, 1960

Rayon Staple

Regular Crimp

	Brt.	Dull
1.5 and 3 denier	$ .28	$ .28

High Crimp

3.0 denier	.28	.28
4.5 denier	.28	....
6.5 denier	.28	.28
8 denier	.28	....
15 denier	.38	.28

Celanese Fibers Company

Effective May 1, 1959

Rayon Tow

	Bright & Dull
1.5, 3, 5.5 D.P.F. Total denier 200,000	.35
8 D.P.F. Total denier 207,000	.37

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. East of Mississippi River. Transportation prepaid to any U.S.A. destination West of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our Acknowledgments of Orders.

Courtaulds (Alabama) Inc.

Rayon Staple

	Bright	Dull
Regular Rayon Staple Fiber	$.28	$.28

Crimped Rayon Staple

High Crimped Rayon Staple Fiber	$.28	$.28

Coloray® Solution Dyed Rayon Staple

Color	Price per lb.
Black	$.35
Oyster	$.36
Silver Grey	$.41
Mocha	$.41
Tan	$.41
Medium Brown	$.41
Pumpkin	$.41
Aqua	$.42
Rose	$.42
Dawn Pink	$.42
Ecru	$.42
Dark Brown	$.42
Gold	$.45
Lilac	$.45
Slate Grey	$.45
Sulphur	$.46
Nugget	$.46
Light Blue	$.46
Crystal Blue	$.47
Apple Green	$.47
Sage	$.47
Peacock Blue	$.48
Medium Blue	$.50
Indian Yellow	$.51
Dark Blue	$.51
Hunter Green	$.51
Turquoise	$.52
Malachite Green	$.53
Red	$.58

In addition to the above, Black is also available in:

1½ den. 1⅛"	5½ den. 3"
3 den. 1⅛"	5½ den. 6"
3 den. 1-9/16"	

Terms: Net 30 days f.o.b. LeMoyne, Alabama: Minimum transportation allowed to points in U.S.A. east of Mississippi River.

Corval® Cross Linked Rayon

Man-made, cross-linked, regular or crimped cellulosic staple, semi-dull and dull ..... $.37 per lb.

Topel® Cross-Linked Rayon

Man-made, cross-linked, cellulosic staple, semi-dull and dull ..... $.37 per lb

Terms: Net 30 days f.o.b. LeMoyne, Alabama: Minimum transportation allowed to points in U.S.A. east of Mississippi River.

The Hartford Fibres Co.

Div. Bigelow-Sanford, Inc.

Rayon Staple

Effective October 20, 1960

Regular

1.5 & 3.0 denier Bright & Dull, 1-9/16", 2" .28

White (Crimped)

8 denier 3" Bright	.28
15 denier 3" Bright	.28
15 denier 3" Dull	.28

"KOLORBON"—Solution Dyed Rayon Staple—3" and 6"

	8 Denier Bright	15 Denier Dull	15 Denier Bright
Cloud Grey	.39	.39	....
Sandalwood	.39	.39	....
Nutria	.39	.39	....
Sea Green	.39	.39	....
Mint Green	.39	.39	....
Champagne	.39	.39	....
Midnight Black	.39	....	.39
Gold	.39	.39	....
Turquoise	.39	.39	....
Melon	.39	.39	....
Capri Blue	.39	.39	....
Charcoal Grey	.39	.39	....
Coco	.39	.39	....
Sable	.39	....	.39
Tangerine	.59	....	.59
Chinese Red	.59	....	.59
Larkspur Blue	.39	.39	....
Royal Blue	.59	....	.59
Lemon Peel	.48	.48	....
Kelly Green	.45	.45	....
Bitter Green	.59	....	.59
Brazil	....	.39	....
Redwood	....	....	.39
Frost Green	....	.39	....
Mist Grey	....	.39	....
Medium Brown	....	.39	....
Dark Brown	....	....	.39
Woodtone	....	.39	....

Antique Gold	....	.39	....
Light Turquoise	....	.39	....
Hunter Green	....	.39	....

Terms: Net 30 days. Prices are quoted f.o.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

"Zantrel Polynosic" Rayon

Effective August 14, 1959

Man-made, cellulosic staple.

Semi-Bright, 1 denier, 1 916/"	$.45 per lb.
1½ denier, 1¼" and 1 9/16"	.42 per lb.
3 denier, 1 9/16" and 2"	.42 per lb.

Terms: Net 30 days. Prices are quoted f.o.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.

North American Rayon Corporation

Current Prices

Rayon Staple

Super High Tenacity	Bright
No. 1 (Unshrunk)	
1, 1.5 & 2.3 deniers	.40
No. 2 (Preshrunk)	
1, 1.5 & 3 deniers	.40

Rayon Tow

Tow Yarns for Tow Breaking	Bright No Twist Tow Tubes
4400/2934	$.45
6000/2934	.45
Tow Yarns for Ribbon	**Bright No Twist Tubes**
1100/480/960	.60
1650/720/1100	.56
1800/720/960	.54
2000/1466	.52
2200/960	.52
3000/960/1466/2934	.47½
3300/1466/2934	.47½
4400/2000/2934	.47½
6000/2934	.47½
6600/2000/2934	.47½

"Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices are subject to change without notice."

TRIACETATE

Celanese Fibers Company

Current Prices Effective June 7, 1957

(Most Deniers Available in Bright or Dull Luster)

*Arnel Staple and Tow

Arnel Triacetate Staple	Bright & Dull
2.5 Individual Denier	$.55
5.0 Individual Denier	.55
Arnel Triacetate Tow	
2.5 Individual Denier 114,000 Total Denier	$.60
5.0 Individual Denier 90,000 Total Denier or 180,000 Total Denier	.60

Packaged on Ball Warps

Terms: Net 30 days. Transportation prepaid or allowed to any destination in U.S.A. east of Mississippi River. Transportation prepaid to any U.S.A. destination west of Mississippi River, but charge is made for the portion of transportation from river crossing nearest customer's location.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Orders are subject to conditions of sale appearing on our acknowledgments of orders.

* Registered Trademark of Celanese Corp. of America.

NON CELLULOSIC YARN

NYLON

Allied Chemical Corporation

Caprolan®

Current Yarn Prices: Effective May 1, 1960

Denier	Filament	Turn/In.	Twist	Type**	Package	1st Grade Price/Lb.
140	16	1½	Z	B	Cones*	$1.60
140	16	1½	Z	B	Beams	1.65
200	16	1½	Z	B	Cones*	1.49
200	16	1½	Z	B	Beams	1.54
200	32	¾	Z	B	Bobbins	1.49
200	32	¾	Z	B	Beams	1.54
210	32	1	Z	HB	Bobbins	1.49
260	16	1	Z	HB	Bobbins	1.49
420	64	½	Z	HBT	Bobbins	1.39
420	64	½	Z	HBT	Beams	1.44
520	32	1	Z	B	Bobbins	1.39
520	32	1	Z	B	Beams	1.44
840	136	½	Z	HBT	Al. Tubes	0.94
840	136	½	Z	HBT	Beams	0.92
1680	272	½	Z	HBT	Al. Tubes	0.94
1680	272	½	Z	HBT	Beams	0.92
1050	56	½	Z	B	Al. Tubes	1.15
2100	112	½	Z	B	Al. Tubes	1.11
4200	224	0	O	B	Paper Tubes*	1.10
2100	408	0	O	HB	Paper Tubes*	0.97
2500	408	0	O	HB	Paper Tubes*	0.97
3360	544	0	O	HB	Paper Tubes*	0.96
4200	680	0	O	HB	Paper Tubes*	0.96
5000	816	0	O	HB	Paper Tubes*	0.96
5800	952	0	O	HB	Paper Tubes*	0.96
7500	1224	0	O	HB	Paper Tubes*	0.95
10000	1632	0	O	HB	Paper Tubes*	0.95
15000	2448	0	O	HB	Paper Tubes*	0.95

Terms—Net 30 days.

Price subject to change without notice.

Bobbins are invoiced at 45¢ ea.

Aluminum Tubes are invoiced at 40¢ ea.

Beams are invoiced at $220.00.

Cradles for beams are invoiced at $53.00.

B—Bright
H—High Tenacity
T—Heat Stabilized

* Paper Tubes and Cones non-returnable, no charge.

** Type is used to describe luster and tenacity.

All prices quoted F.O.B. Shipping Point.

Minimum transportation charges allowed and prepaid in Continental United States, excluding Alaska.

American Enka Corporation

Enka Nylon Prices

Effective March 21, 1961

Denier/Mono Filament	Luster	Twist	Package	Price Per Pound Standard	Price Per Pound Substandard
15/1	SD or D	0.5Z	Pirns	3.89	3.69
15/1	SD or D	0.5Z	Spools	4.00	....
20/1	SD	0.5Z	Pirns	3.53	3.30
20/6	SD	0.5Z	Pirns	2.91	2.61
20/6	SD	0.5Z	Spools	3.02	....
20/6	Dull	0.5Z	Pirns	2.96	2.61
20/6	Dull	0.5Z	Spools	3.07	....
30/1	SD	0.5Z	Pirns	4.13	3.93
30/3 Enkatron**	SD	0.5Z	Pirns	2.46	2.31
30/6	SD	0.5Z	Pirns	2.36	2.21
30/6	SD	0.5Z	Spools	2.46	....
40/8-13	SD	0.5Z	Pirns	2.01	1.91
40/8-13	SD	0.5Z	Spools	2.11	....
40/8	SD-B de B*	0.5Z	Pirns	2.10	2.00
40/13	Dull	0.5Z	Pirns	2.06	1.96
40/13	Dull	0.5Z	Spools	2.16	....
50/13	SD	0.5Z	Pirns	1.91	1.76
50/13	SD	0.5Z	Spools	2.01	....
50/13	SD-B de B*	0.5Z	Pirns	2.00	1.85
50/13	SD-B de B*	0.5Z	Spools	2.10	....
70/16-32	B or SD	0.5Z	Pirns	1.71	1.66
70/32	SD-B de B*	0.5Z	Pirns	1.80	1.75
100/32	SD	0.5Z	Pirns	1.65	1.60
100/32	SD-B de B*	0.5Z	Pirns	1.74	1.69
140/24	Bright	1.5Z	Cones	1.60	1.55
140/24	Bright	1.5Z	Beams	1.65	....
140/32-64	SD	0.5Z	Pirns	1.60	1.55
140/32-64	SD-B de B*	0.5Z	Pirns	1.69	1.64
200/16-32	Bright	0.5Z	Cones	1.49	1.44
200/16-32	Bright	0.5Z	Beams	1.54	....
200/16-32	Bright	1.5Z	Cones	1.49	1.44
200/16-32	Bright	1.5Z	Beams	1.54	....
200/32	SD-B de B*	0.5Z	Cones	1.58	1.53
200/16-32	Bright	0.5Z	Cones	1.49	1.39
210/32	BHT	0.5Z	Cones	1.49	1.44
210/32	BHT	0.5Z	Beams	1.54	....
260/16	BHT	0.5Z	Cones	1.49	1.39
260/16	BHT	0.5Z	Beams	1.54	....
400/64	Bright	0.5Z	Cones	1.39	1.29
420/64	BHT	0.5Z	Cones	1.39	1.29
420/64	BHT	0.5Z	Beams	1.44	....
520/32	Bright	0.5Z	Cones	1.39	1.29
520/32	BHT	0.5Z	Cones	1.39	1.29
520/32	BHT	0.5Z	Beams	1.44	....
1040/68 Enkatron**	SD	0.5Z	Cones	1.30	1.20
1230/68 Enkatron**	SD	0.5Z	Cones	1.30	1.20
840/140	BHT	0.5Z	Cones	.94	.92
840/140	BHT	0.5Z	Beams	.92	....

* Blanc de Blancs = Enka Trademark White of Whites.

** Enkatron = Enka Trademark Multilobal Yarns.

*Luster: B—Bright; H—High Tenacity; T—Heat Stabilized; SD—Semi-Dull; D—Dull; *SD-B de B.

Pirns invoiced at 25¢ or 45¢ each, depending on type. Deposits refunded upon return of pirns in good condition. Cones are not returnable. Spools, Beams and Racks are deposit carriers and remain the property of American Enka Corporation.

Terms: Net 30 days from date of invoice. Minimum common carrier transportation charges will be prepaid and absorbed to first destination in the continental limits of the United States excluding Alaska and Hawaii. In prepaying transportation charges, seller reserves the right to select carrier used.

All prices subject to change without notice.

*B de B—Blanc de Blancs®—White of Whites Color.

The Chemstrand Corp.

Current Prices Effective January 1, 1960

	Denier	Filament	Twist	Type	Package	Standard Price/lb.	Second Price/lb.
	10	1	O	SD	Bobbins	$7.16	$6.56
*	15	1	O	RSD	Bobbins	3.89	3.69
	15	1	O	RSD	Spools	4.00	....
	15	1	O	Dull	Bobbins	3.89	3.69
	15	1	O	Dull	Spools	4.00	....
	20	7	Z	RSD	Bobbins	2.91	2.61
	20	7	Z	RSD	Spools	3.02	....
*	30	10	Z	RSD	Bobbins	2.36	2.21
*	30	26	Z	RSD	Bobbins	2.49	2.21
*	40	10	Z	RSD	Bobbins	2.01	1.91
*	40	13	Z	RSD	Bobbins	2.01	1.91
	40	13	Z	RSD	Spools	2.11	....
	40	13	O	RSD	Draw Wind	2.01	1.91
*	40	13	Z	Dull	Bobbins	2.06	1.96
	40	13	Z	Dull	Spools	2.16	....
	40	13	O	Dull	Draw Wind	2.06	1.96
*	50	17	Z	RSD	Bobbins	1.91	1.76
	50	17	O	RSD	Draw Wind	1.91	1.76
*	50	17	Z	Brt.	Bobbins	1.91	1.76
	70	17		RSD	Bobbins	1.71	1.66
*	70	20	Z	RSD	Bobbins	1.71	1.66
*	70	34	Z	RSD & SD	Bobbins	1.71	1.66
	70	34	O	RSD & SD	Draw Wind	1.71	1.66
	70	34	Z	Brt.	Bobbins	1.71	1.66
	70	34	O	Brt.	Draw Wind	1.71	1.66
	70	34	Z	HB	Bobbins	1.76	1.66
	70	34	O	HB	Bobbins	1.76	1.66
	70	34	Z	RB	Bobbins	1.71	1.66

100	26	Z	RSD	Bobbins	1.65	1.60
100	34	Z	RSD	Bobbins	1.65	1.60
100	34	Z	HB	Bobbins	1.70	1.60
140	68	Z	SD	Bobbins	1.60	1.55
140	68	Z	Brt.	Bobbins	1.60	1.55
* 200	34	Z	Brt.	Bobbins	1.49	1.44
200	34	O	Brt.	Draw Wind	1.49	1.44
200	34	Z	Brt.	Spools	1.54	....
* 200	68	Z	RSD	Bobbins	1.56	1.46
210	34	Z	HB	Bobbins	1.49	1.44
210	34	O	HB	Draw Wind	1.49	1.44
210	34	Z	HB	Spools	1.54	....
210	34	Z	HB	Beams	1.54	....
210	34	Z	RHB	Bobbins	1.49	1.44
260	17	Z	HB	Bobbins	1.49	1.39
260	17	Z	HB	Beams	1.54	....
420	68	Z	HB	Bobbins	1.39	1.29
420	68	Z	RHB	Bobbins	1.39	1.29
520	34	Z	HB	Bobbins	1.39	1.29
720	140	Z	RHB	Beams	.99	....
840	140	Z	HB	Tubes	.94	.92
840	140	Z	HB	Beams	.92	.90
840	140	Z	HB	Cones	.95	.93
840	140	Z	RHB	Tubes	.94	.92
840	140	Z	RHB	Beams	.92	.90
840	140	Z	RHB	Cones	.95	.93
840	140	Z	HB	Paper Tubes	.94	.92
840	140	Z	RHB	Paper Tubes	.94	.92
840	140	Z	RHB	Textile Grade—W.W.	1.06	.92
840	140	Z	HB & RHB	Raschel Spools	1.00	....
1050	170	Z	RHB	Tubes	.94	.92
1680	280	Z	RHB	Tubes	.94	.90
1680	280	Z	RHB	Beams	.92	....
1680	280	Z	RHB	Cones	.95	.91
1680				Spools	.99	.91

Cumuloft®

520	34	Z	RB	Tubes	2.05	....
1040	68	Z	RB	Tubes	1.74	....
1230	68	Z	RSD	Paper Tubes	1.53	....
2080	136	Z	RB	Tubes	1.66	....
3690	204	S	RSD	Cones	1.47	....

Cadon™

15	1	O	Brt.	Bobbins	4.90	4.70
15	1	O	Brt.	Spools	5.01	....
70	34	Z	RSD	Bobbins	1.81	....
200	34	Z	RB	Bobbins	1.54	....
520	34	Z	RB	Bobbins	1.44	1.34
1040	68	Z	RB & RSD	Tubes	1.30	1.20
1230	68	Z	RSD	Tubes	1.30	1.20
2080	136	Z	RB	Tubes	1.26	....

* These counts also available in Warp Wind package at price shown for Bobbins.

* *Types*: D—Dull; SD—Semi-dull; B—Bright; H—High tenacity.

Bobbins are invoiced at 25¢ or 45¢, depending on type; tubes are invoiced at 40¢ each; spools invoiced at $95.00, $110.00, and $115.00, depending on type; and beams and crates for beams are invoiced at $220.00 and $25.00 respectively.

Prices subject to changes without notice.

Freight prepaid within Continental United States and Puerto Rico.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Nylon Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	First Grade	Second Grade
7-1	0	200	Bobbin	$8.05	$7.40
10-1	0	200	Bobbin	7.16	6.56
12-1	0	200	Bobbin	6.35	5.85
15-1	0	90	Bobbin	4.90	....
15-1	0	90	Kntg. Beam	5.01	....
15-1	0	200	Kntg. Beam	4.00	....
15-1	0	200/280	Bobbin	3.85	3.69
15-1	0	680	Kntg. Beam	4.00	....
15-1	0	680	Bobbin	3.89	3.69
20-1	0	200/280	Bobbin	4.03	3.68
30-1	0	200	Bobbin	4.13	....
40-1	0	100	Bobbin	4.03	3.75
14-2	0.2Z	200	Bobbin	6.72	6.12
17-2	0.2Z	200	Bobbin	5.96	5.41
20-2	0.2Z	200	Bobbin	4.71	4.27
15-3	0.2Z	200	Bobbin	5.19	4.69
21-3	0.2Z	200	Bobbin	4.70	4.27
20-7	0.5Z	200	Bobbin	2.91	2.61
20-7	0.5Z	200	Kntg. Beam	3.02	....
20-7	0.5Z	680	Bobbin	2.96	2.61
20-7	0.5Z	680	Kntg. Beam	3.07	....
20-17	0.5Z	280	Bobbin	3.51	....
20-17	0.5Z	280	Kntg. Beam	3.62	....
20-20	0.7Z	209	Bobbin	6.00	....
28-4	0.2Z	200	Bobbin	2.81	2.61
30-10	0	200	Drawwinder Tube	2.36	2.21
30-10	0.5Z	200/280	Bobbin	2.36	2.21
30-10	0.5Z	200/280	Kntg. Beam	2.46	....
30-10	0.5Z	300	Bobbin	2.51	2.36
30-10	0.5Z	680	Bobbin	2.41	2.21
30-10	0.5Z	680	Kntg. Beam	2.51	....
30-26	0.5Z	200/280	Bobbin	2.49	2.21
30-26	0.5Z	200/280	Kntg. Beam	2.59	....
40-7	0.5Z	200	Bobbin	2.11	1.91
40-10	0.5Z	200/280	Bobbin	2.01	1.91
40-10	0.5Z	200/280	Kntg. Beam	2.11	....
40-13	0.5Z	200/280	Kntg. Beam	2.11	....
40-13	0.5Z	100/200/280	Bobbin	2.01	1.91
40-13	0	200	Drawwinder Tube	2.01	1.91
40-13	0.5Z	300/400/480	Bobbin	2.13	1.90
40-13	0.5Z	680	Bobbin	2.06	1.96
40-13	0.5Z	680	Kntg. Beam	2.16	....
40-34	0.5Z	200	Bobbin	2.21	1.81
50-10	0.5Z	200/280	Bobbin	2.11	1.76
50-17	0.5Z	100/200/280	Bobbin	1.91	1.76
50-17	0	200	Drawwinder Tube	1.91	1.76
50-17	0.5Z	680	Bobbin	2.01	1.76
50-17	0	685	Paper Tube	2.01	1.76
60-20	0.5Z	200/280/288	Bobbin	1.82	1.65
60-34	0.5Z	300	Bobbin	1.86	1.76
70-17	0.5Z	200/288	Bobbin	1.71	1.66
70-20	0.5Z	288	Bobbin	1.71	1.66
70-34	0.5Z	91	Bobbin	1.80	1.75
70-34	0.5Z	100/180/200	Bobbin	1.71	1.66
70-34	0	105/205	Paper Tube	1.71	1.66
70-34	0	100/200/285	Drawwinder Tube	1.71	1.66
70-34	0.5Z	280/288	Bobbin	1.71	1.66
70-34	0.5Z	300/680	Bobbin	1.76	1.66
70-34	0	680/685	Paper Tube	1.76	1.66
80-26	0.5Z	200	Bobbin	1.71	1.60
90-26	0.5Z	200/288	Bobbin	1.76	1.66
100-34	0.5Z	200/288	Bobbin	1.65	1.60
100-34	0	300	Drawwinder Tube	1.70	1.60
100-34	0.5Z	300/680	Bobbin	1.70	1.60
100-50	0.5Z	200/288	Bobbin	1.71	1.60
110-50	0.5Z	200	Bobbin	1.71	1.60
140-34	0.5Z	680	Bobbin	1.65	1.60
140-68	0.5Z	91	Bobbin	1.69	1.64
140-68	0.5Z	100/180/280	Bobbin	1.60	1.55
140-68	0	200	Drawwinder Tube	1.60	1.55
140-68	0.5Z	200/288	Bobbin	1.60	1.55
140-68	0.5Z	300	Bobbin	1.65	1.55
140-68	0.5Z	680	Bobbin	1.65	1.60
200-20	0.7Z	100/180	Bobbin	1.49	1.44
200-34	0	100	Drawwinder Tube	1.49	1.44
200-34	0.7Z	100/280	Bobbin	1.49	1.44
200-34	0	105	Paper Tube	1.49	1.44
200-34	0.7Z	680	Bobbin	1.54	1.44
200-68	0.7Z	100/200	Bobbin	1.56	1.46
210-34	0	300	Drawwinder Tube	1.49	1.44
210-34	0.7Z	300/330	Bobbin	1.49	1.44
210-34	0.7Z	300/330	Kntg/Section Beam	1.54	....
210-34	0	305	Paper Tube	1.49	1.44
260-17	1Z	300/380	Bobbin	1.49	1.39
400-68	0.7Z	100	Bobbin	1.39	1.29
420-68	1Z	300	Bobbin	1.39	1.29
420-68	1Z	300	Kntg/Section Beam	1.44	....
520-34	1Z	300/380	Bobbin	1.39	1.29
630-102	0.7Z	300	Bobbin	1.39	1.29
780-51	1Z	300/380	Bobbin	1.39	1.29
800-140	0.5Z	100	Bobbin	1.39	1.29
840-136	1Z	300	Bobbin	1.34	1.24
840-136	1Z	300	Kntg/Section Beam	1.39	....

Nylon Filament "Antron" Yarn Prices

20-7	0.5Z	560 Brt.	Bobbin	3.06	2.76
20-7	0.5Z	560 S.D.	Bobbin	3.06	2.76
30-10	0.5Z	560 S.D.	Bobbin	2.46	2.31
40-13	0.5Z	560 Dull	Bobbin	2.16	2.06
40-13	0.5Z	560 Mid-Dull	Bobbin	2.11	2.01
40-13	0.5Z	560 S.D.	Bobbin	2.11	2.01
40-13	0.5Z	560 Brt.	Bobbin	2.11	2.01
50-17	0.5Z	560 S.D.	Bobbin	2.01	1.86
70-34	0	565 S.D.	Paper Tube	1.81	1.76
70-34	0.5Z	560 S.D.	Bobbin	1.81	1.76
70-34	0	560 S.D.	Drawwinder Tube	1.81	1.76
200-20	0.7Z	560 Brt.	Bobbin	1.54	1.49
200-34	0.7Z	560 S.D.	Bobbin	1.54	1.49
200-34	0	565 S.D.	Paper Tube	1.54	1.49
520-34	1Z	560 Brt.	Bobbin	1.44	1.34
780-51	1Z	560 Brt.	Bobbin	1.44	1.34

* Antron is DuPont's registered trademark for its trilobal multifilament nylon yarn.

Color-Sealed Black Yarn

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
30-10	0.5Z	140	Bobbin	$2.71	$2.56
40-13	0.5Z	140	Bobbin	2.36	2.16
70-17	0.5Z	140/148	Bobbin	2.06	2.01
70-34	0.5Z	140	Bobbin	2.06	2.01
100-34	0.5Z	140	Bobbin	2.00	1.95
200-20	0.7Z	140	Bobbin	1.84	1.79
200-34	0.7Z	140	Bobbin	1.84	1.79
260-20	1Z	140	Bobbin	1.84	1.79

INDUSTRIAL YARNS

Tire Quality

Denier & Filament	Turns/Inch & Twist	Type	Package	1st Grade	2nd Grade
840-140	0.5Z	300/700	Aluminum Tube	$.94	$.92
840-140	0.5Z	300/700	Beam	.92	....
840-140	0.5Z	300/700	Kntg Beam	1.00	....
1680-280	0.5Z	700	Cone, Paper Tube	.95	.92
1260-210	0.5Z	700	Beam	.92	....
1680-280	0.5Z	700	Aluminum Tube	.94	.92
1680-280	0.5Z	700	Beam	.92	....
840-140	0.5Z	300/700	Cone, Paper Tube	.95	.92

Industrial Quality

840-140	0.5Z	707	Cone, Pape Tube	.95
2520-420	0	700	Paper Tube	.97
3360-560	0	700	Paper Tube	.96
5040-840	0	707	Paper Tube	.99
5040-840	0	700	Paper Tube	.96
7560-1260	0	707	Paper Tube	.98
7560-1260	0	700	Paper Tube	.95
10080-1680	0	707	Paper Tube	.98
15120-2520	0	707	Paper Tube	.98

These prices are subject to change without notice. Terms: Net 30 Days.

Types

Type 90—Bright, normal tenacity, trilobal—cross section.
Type 91—Semidull, super white, normal tenacity, for intimate apparel use only.
Type 100—Bright, normal tenacity.
Type 105—Bright, normal tenacity, low shrinkage (5-7%).
Type 140—Bright, color-sealed, black, normal tenacity.
Type 148—Bright, color-sealed Black, normal tenacity, for texturing.
Tyep 200—Semidull, normal tenacity.
Type 205—Semidull, normal tenacity, low shrinkage (5-7%).
Type 209—Semidull, normal tenacity, improved light durability and dye light fastness. For electrical uses.
Type 280—Semidull, normal tenacity, improved light durability and dye light fastness.
Type 285—Semidull, normal tenacity, low shrinkage, imrpoved light durability, and dye light fastness.
Type 288—Semidull, normal tenacity, for texturing.

Firestone Acquires Nyloft

Firestone Tire & Rubber Co. has acquired from Industrial Rayon Corp. the process and trademark for "Nyloft" lofted nylon yarn and fiber. Firestone will begin production of the nylon this month at its plant in Hopewell, Va. Industrial had produced Nyloft largely for carpets at a plant in Covington, W. Va. Firestone stated that its initial capacity will be approximately four million pounds.

Curon-Backed Rugs

A group of permanently non-skid, washable Curon-backed rugs will be introduced by the Evans Manufacturing Co. Curon polyurethane foam has been laminated to lint-free, "Poodle-Tuft" rugs of Avisco rayon. The new rugs include a variety of shapes and styles.

The Borregaard Co., Inc.
Norway House, 290 Madison Avenue
NEW YORK 17, NEW YORK
Norwegian Viscose Rayon Staple Fiber
Bright Supral Dull
Sole Agent For United States, Canada, Mexico, Cuba

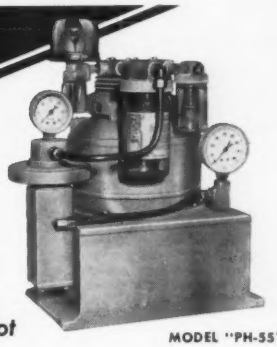
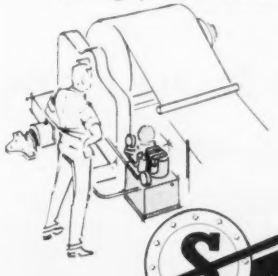
EMKAY...CHEMICALS FOR YOUR TEXTILE PROCESSING

EMKAY MANUFACTURES:
- Emkabase
- Emkacide
- Emkafix
- Emkafol
- Emkagen
- Emkalane
- Emkalar
- Emkalite
- Emkalon
- Emkalube
- Emkanet
- Emkanol
- Emkapel
- Emkapene
- Emkaperm
- Emkapon
- Emkaset
- Emkasize
- Emkasol
- Emkatard
- Emkatex
- Emkatol M
- Emkaterge
- Emkawate
- Emkazyme
- Rexobase
- Rexobond
- Rexoclean
- Rexodull
- Rexofos
- Rexogel
- Rexogum
- Rexole
- Rexolene
- Rexoloid
- Rexolube
- Rexopene
- Rexopon
- Rexoscour
- Rexoslip
- Rexosolve
- Rexowax
- Rexowet

Levels out streaks!
Corrects shaded Selvages!
EMKATEX-SF
WRITE FOR YOUR DATA SHEET AND FREE SAMPLE TODAY
SPECIALISTS FOR ALL PHASES OF TEXTILE PROCESSING
MANUFACTURING CHEMISTS EMKAY CHEMICAL COMPANY EMKA-PRODUCTS-REXO
319-25 Second St.
Elizabeth, N. J.
Elizabeth 2-7053
Elizabeth 2-7695

Experience is what you get while you're looking for something else

We who manufacture
LAMBERTVILLE THREAD GUIDES
have accumulated a vast store of experience in ceramic guide manufacture. We believe it helps explain why Lambertville guides are unsurpassed in smoothness, hardness, and uniformity. Available in white or 'Durablu' finish. Write for catalog and samples.
Lambertville Ceramic AND MANUFACTURING COMPANY
LAMBERTVILLE, NEW JERSEY
LAMBERTVILLE: YOUR GUIDE TO BETTER OPERATIONS!

FOR PRECISE, HEAVY DUTY WEB CONTROL . . .
specify the
Stanford HYDRAULIC WEB GUIDE
with exclusive "P-H" Automatic Pilot

MODEL "PH-55"
. . . powerful, pin-point precision in even the heaviest unwind and rewind web guiding operations! With exclusive pneumatic-hydraulic automatic pilot control, the Stanford PH-55 Web Guide is a complete package combining the ultimate in power and precision—side register held to .010 of an inch. No adjustments are needed on the specially designed Pilot Control and "chattering" and "hunting" problems are eliminated.

STOP WASTE
SAVE TIME
SPEED PRODUCTION
STANFORD-IZE!
For further PH-Series information, write to Dept. SE-26
Stanford ENGINEERING CO.
SALEM, ILLINOIS

Type 300—Bright, high tenacity.
Tyep 305—Bright, high tenacity, low shrinkage (5-7%).
Type 330—Bright, high tenacity, more heat & light resistant.
Type 380—Bright, high tenacity, improved light durability and dye light fastness.
Type 400—Semidull, high tenacity.
Type 480—Semidull, high tenacity, improved light durability and dye light fastness.
Type 560—Luster as designated—Modified cross section. Improved light durability and dye light fastness.
Type 565—Luster as designated—Modified cross section, low shrinkage. Improved light durability and dye light fastness.
Type 680—Dull, normal tenacity.
Type 685—Dull, normal tenacity, low shrinkage (5-7%).
Type 700—Bright, high tenacity.
Type 707—Bright, high tenacity cordage yarn.

Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

Following are invoiced as a separate item.
Bobbins—25 cents or 45 cents depending on type
Aluminum Tube—40¢ each
Draw Winder Tubes—$1.00
Industrial & Section Beams—$220.00 each
Racks for Industrial & Section Beams—$50.00 each
Tricot Beams—$95.00 or $250.00 each depending upon type
Racks for Tricot Beams—$70.00 or $130.00 each depending upon type
Raschel Beams—$85.00 or $100.00 each depending upon type
Racks for Raschel Beams—$70.00 each

Knitting (Tricot and Raschel) and Section Beams and Racks are billed at above prices if not returned within 180 days from date of invoice. Industrial beams and racks are billed if not returned within 60 days from date of invoice.

(Beams and Racks are deposit carriers and remain the property of E. I. du Pont de Nemours & Co., Inc.)

POLYESTER

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices "Dacron"*

Denier & Filament	Turns/Inch	Luster	Type*	Package	Tubes 1st Gr.
30-14	0	Bright	55	Tube	$2.60
30-20	0	Semidull	56	Tube	2.60
40-27	0	Semidull	56	Tube	2.35
40-27	0	Bright	55	Tube	2.35
40-27	0	Dull	57	Tube	2.40
70-34	0	Semidull	56	Tube	1.97
70-14	0	Bright	55	Tube	1.97
70-34	0	Bright	55	Tube	1.97
70-34	0	Dull	57	Tube	2.02
100-34	0	Semidull	56	Tube	1.90
140-28	0	Bright	55	Tube	1.85
150-34	0	Semidull	56	Tube	1.85
220-50	0	Bright	51	Tube	1.76
250-50	0	Bright	55	Tube	1.76
1100-250	0	Bright	51	Core	1.50
1100-250	0	Bright	52	Core	1.50
1100-250	Ro2	Bright	52	Core	1.50
1100-250	Ro2	Bright	52	Beam	1.50

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route within the Continental limits of the U. S., excluding Alaska.

Yarn Types

* Type:
Type 51—Bright, high tenacity.
Type 52—Bright, high tenacity.
Type 55—Bright, normal tenacity.
Type 56—Semidull, normal tenacity.
Type 57—Dull, normal tenacity

Tubes are invoiced as a separate item at $.70 each.

Industrial beams and cradles are billed if not returned within 60 days from date of invoice. They are then billed as separate items at $220.00 per beam and $50.00 per cradle and are returnable for credit.

*"DACRON" is DuPont's registered trade-mark for its polyester fiber.

SARAN

The National Plastics Products Company—Fibers Division Odenton, Maryland

Current Prices:

CONTINUOUS FILAMENT

Type	Twist p. i.	Natural	Colors
750/20*	3	1.75	1.80

* For filter fabrics and other industrial purposes only.

F.O.B. Odenton, Maryland.

Terms: Net 30 days.

NON CELLULOSIC STAPLE & TOW ACRYLIC

American Cyanamid Co. Fibers Division

Effective Date: December 21, 1960

Cyanamid Acrylic Staple

	1st Grade Price (per pound)
2.0 Denier Bright and Semi-Dull	$1.28
3.0 Denier Bright and Semi-Dull	1.22
5.0 Denier Bright and Semi-Dull	1.22
15.0 Denier Bright and Semi-Dull	.89

Staple Lengths: 1½", 2" 2½", 3", 3½", 4", 4½".

Type WM—Designed for the woolen spinning system and is a blend of deniers (average 4) and length .94

Type BC—Designed for blending with cellulosics and is 2 or 3 denier 1½" semi-dull regular staple 1.08

Information provided on request for Deniers, Lengths and Lusters not listed above.

Prices are subject to change without notice.

Terms: Net 30 Days.

F.O.B. Shipping Point—Minimum transportation allowed (Seller's route and method) within the continental limits of the United States excluding Alaska. If Buyer requests and Seller agrees to a route or method involving higher than minimum rate, Buyer shall pay the excess transportation cost.

Note: CRESLAN® is Cyanamid's registered trademark for certain of its acrylic fibers. Use of this trademark is authorized only on properly constructed fabrics, after they have been tested and approved by Cyanamid.

The Chemstrand Corp.

"Acrilan"*

Current Prices Effective January 1, 1961

Denier	Type	Regular Acrilan "A" Qual.	Regular Acrilan 2nd Qual.	Acrilan 16 "A" Qual.	Acrilan 16 2nd Qual.
1.0	Staple	$	$	$1.28	$ ....
2.0	Staple	1.22	1.03	1.22	1.03
2.0	Tow	1.22	1.03	1.22	1.03
2.5	Hi-Bulk Staple	1.22	1.03	1.22	1.03
2.5	Hi-Bulk Tow	1.22	1.03	1.22	1.03
3.0	Staple	1.22	1.03	1.22	1.03
3.0	Tow	1.22	1.03	1.22	1.03
5.0	Staple	1.22	1.03	1.22	1.03
5.0	Tow	1.22	1.03	1.22	1.03
8.0	Staple	1.18	1.03	1.18	1.03
8.0	Tow	1.18	1.03	1.18	1.03
15.0	Staple	.95	....	.95	....
15.0	Tow	.95	....	.95	....

Staple and Tow available in Bright and Semi-Dull lusters.

Acrilan Spectran™

		Dark	Light
2.5	Staple	1.39	1.29
3.0	Staple	1.39	1.29
3.0	Tow	1.44	1.34

Acrilan Spectran—Staple and Tow available in Bright lusters only.
Dark—Black, Dark Blue, Brown, Dark Grey and Olive.
Light—Taupe, Gold, Beige and Light Grey.

Fiberfill	....	....	1.01	....
Types 77, 88 and 89 Staple	....	....	.97	....

TERMS: Net 30 Days.

F.O.B. shipping point, freight prepaid: seller to select and pay transportation charges of carrier to points within the continental limits of the United States, excluding Alaska.

* "Acrilan" is Chemstrand's registered trademark for its acrylic fiber.

The Dow Chemical Company

Textile Fibers Department Current Prices

"Zefran"* Acrylic Staple

Type 1207	Staple Length	
2.0 Denier	1½", 2", 3"	$1.24
3.0 Denier	1½", 2", 2½", 3", 4½"	1.18

100% Blends of ZEFRAN 1207 Acrylic fiber (For the Woolen System)

Type W-7 (average denier of about 2.5)	$.99
Type W-9 (average denier of about 4.5)	.94

Terms: Net 30 days.

Transportation Terms: F.O.B. shipping point—Freight prepaid our route within the continental limits of the U. S., excluding Alaska.

* Registered trademark of The Dow Chemical Co.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

"Orlon"* Acrylic Staple & Tow

Type 42	Staple Length	Tow Blds.	1st Grade
2.0 Denier Semidull & Bright	1¼, 1½, 2, 2½, 3, 4½	470M	1.28
3.0 Denier Semidull & Bright	1¼, 1½, 2, 2½, 3, 4½	470M	1.30
3.0 Denier Color-sealed Black	1¼, 1½, 2, 2½, 3, 4½	470M	1.63
6.0 Denier Semidull & Bright	1½, 2, 2½, 3, 4½	470M	1.20
6.0 Denier Color-sealed Black	1½, 2, 2½, 3, 4½	470M	1.55
4.5 Denier Semidull	1½, 1¼, 2, 2½, 3, 4½	470M	1.18
10.0 Denier Semidull & Bright	1½, 2, 2½, 3, 4½	470M	1.18
10.0 Denier Color-sealed Black	1½, 2, 2½, 3, 4½	470M	1.55

High Shrinkage Staple price as Regular Staple

Type 39 Semidull $.94

This product is designed for *woolen system spinning* and is a blend of deniers (average 4.2) with a variable cut length.

Type 39A Semidull $.99

This product is designed for *woolen system spinning* and is a blend of predominately fine deniers (average 2.5) with a variable cut length.

Type 39B Semidull $.94

This product is designed for *woolen system spinning* and is a blend of predominately heavy deniers (average 6.5) with a variable cut length.

Type 72 Semidull $1.08

This product is designed as a blending staple with cotton for skin-contact apparel type of fabrics and is a 1.5 denier, 1½" semidull whitened staple.

Type 75 Semidull $1.08

This product is designed for *Cotton/Rayon System* Spinning and is 2.5 denier, 1½" semidull regular shrinkage staple.

"ORLON SAYELLE"**

Type 21

3.0 denier semidull variable (2½" to 5" average 3¾") staple	$1.45
6.0 denier semidull variable (2½" to 5" average 3¾") staple	1.40
6.0 denier semidull tow 470M	1.40

F.O.B. Shipping Point—Freight prepaid our route within the continental limits of the United States, excluding Alaska.

*"ORLON" is Dupont's Registered Trade-mark for its Acrylic Fiber.
"ORLON SAYELLE"** is Dupont's Registered Trade-mark for its bi-component Acrylic fiber.

MODACRYLIC

Eastman Chemical Products, Inc.
Tennessee Eastman Co.

Current

"Verel"* Staple and Tow

All items available in both bright and dull luster in standard lengths

Denier	Type A	Type B	Type C	Type D	Type III	Type HB
2.75•	.75	....	....	....		
3	.75	....	....	....	$0.75	$0.75
5	.75	$0.75	....	....	....	.75
8	.75	.75	....	....	....	.75
12		.70	$0.70	$0.70	....	.70
16	.70	.70	.70	.70	....	.70
24	....	....	.75	....	....	....

• cut 1¼" length only

Type A—High crimp with good crimp retention
Type B—High crimp—less permanent than Type A
Type C—Medium crimp—nonpermanent—crimp easily removed
Type D—Low crimp—completely nonpermanent—fiber must be stabilized in dyeing
Type HB—Very high, very permanent crimp
Type F—Fiber with greater denier and length variation than other types
Type III—Controlled shrinkage fiber

Prices are subject to change without notice.
Terms: Net 30 days. Payment—U. S. A. dollars.
Transportation charges prepaid or allowed to destination in continental United States, except Alaska. Seller reserves right to select route and method of shipment. If buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

• "Verel" is a trade-mark of the Eastman Kodak Co.

Union Carbide Chemicals Co.

Div. Union Carbide Corp.
Textile Fibers Dept. Effective December 1, 1959

Dynel Staple & Tow

Natural Dynel

2, 3, 6, 12 Denier, Staple and Tow	1.10 per lb.
Liner blend, Staple only	.92 per lb.
24 Denier, Staple and Tow	1.05 per lb.
12 Denier, Type 80, Staple and Tow	.85 per lb.
3 Denier Type 63, High Shrinkage, Staple and Tow	1.15 per lb.

Dynel Spun with Colors:
Blond, Pewter, Gray, Brown, Charcoal, Black

3 and 6 Denier, Staple and Tow	1.20 per lb.
3 Denier Type 63, High Shrinkage, Staple and Tow	1.30 per lb.

Prices are quoted F.O.B. shipping point, freight prepaid our route, within continental limits United States, excluding Alaska and Hawaii.

Aeress Yarn

Denier & Filament	Turns/Inch & Twist	Package	Price
75-30	1.0 Z	Paper Tube	$2.10
100-40	1.0 Z	Paper Tube	2.05
150-60	1.0 Z	Paper Tube	2.00
200-80	1.0 Z	Paper Tube	1.95

Prices are quoted F.O.B. shipping point, frieght prepaid our route, within continental limits of United States, excluding Alaska and Hawaii.

NYLON

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

Nylon Staple and Tow

Denier	Type	Staple Lengths	Tow Bundle	1st. Grade Price/Lb.	2nd Grade Stalpe Only
1.5	200	1⅛"—4½"	None made	$1.24	$1.10
1.5	201	1⅛"—4½"	None made	1.26	1.12
2.3	420	1½" only	None made	1.24	1.10
3.0	231	1⅛"—4½"	385M	1.26	1.12
3.0	100/200	1⅛"—4½"	430M	1.24	1.10
3.0	101/201	1⅛"—4½"	455M	1.26	1.12
4.6	320	1"—6½"	None made	1.24	1.10
6.0	100	1½"—6½"	330M	1.20	1.06
6.0	101	1½"—6½"	345M	1.22	1.08
15.0	100	1½"—6½"	425M	.95	....
15.0	101	1½"—6½"	None made	.97	....
15.0	600	1½"—6½"	425M	.97	....
15.0	601	1½"—6½"	None made	.99	....

Types

Staple lengths are restricted to the range shown opposite each denier above. The actual cut lengths within these ranges are as follows: 1⅛, 1½, 2, 2½, 3, 4½ and 6½

Type 100 Bright, normal tenacity, not heatset.
Type 101 Bright, normal tenacity, heatset.
Type 200 Semidull, normal tenacity, not heatset.
Type 201 Semidull, normal tenacity, heatset.
Type 231 Semidull, normal tenacity, high crimp heatset.
Type 320 Bright, high tenacity, high modulus, no crimp.
Type 420 Semidull, high tenacity, high modulus, no crimp.
Type 600 Dull, normal tenacity, not heatset.
Type 601 Dull, normal tenacity, heatset.
These prices are subject to changes without notice.
Terms—Net 30 Days.
Freight Terms—Terms are F.O.B. shipping point, freight prepaid our route within the continental limits of the United States, excluding Alaska.

OLEFIN

Beaunit Mills Inc.

Fibers Division Effective November 1, 1960

Polypropylene Bright Staple

Denier	Price per Lb.
1.5	$.90
3.0	.90
6.0	.90
15.0	.90

Staple cuts are 1½", 2" and 3".
Other lengths are available on request.
Terms: Net 30 days F.O.B. shipping point. Minimum Freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices subject to change without further notice.

Dawbarn Brothers, Incorporated

Effective June 8, 1961

Polypropylene for Outdoor Furniture Tape

Designation	Price Per Pound Average Yield Yds. per Pound	Less Than One Pallet	One Pallet And Over
DLP®57, 100FX8/0	4,500 per end	$1.15	$.80
DLP®51, 1000F/1/0	4,500	1.20	.85
DLP®51, 375/1/0	11,900	1.25	.90

Carton Weight		Average Pallet Weight
54#	1000FX8/0	650#
22#	1000F/1/0	475#
25#	375/1/0	500#

Deduction for Seasonal Shipments—Schedule:

June 1-August 31	(1st Quarter)	$.04 Per Pound
September 1-November 30	(2nd Quarter)	.02 Per Pound
December 1-February 28	(3rd Quarter)	.00 Per Pound
March 1-May 31	(4th Quarter)	.00 Per Pound

Terms:
Net 30 days, F.O.B., Waynesboro, Virginia.
Truckload Shipments (minimum 40 pallets) freight prepaid.
Less truckload shipments—freight collect.
Red yarn ..... Add $.03 per pound.
Order Acceptances:
All orders are subject to acceptance at the Home Office in Waynesboro, Virginia.
Orders of less than one pallet of a single size and color are considered for Sample and Development purposes only, and we reserve the right to refuse orders except for these purposes.

Standard Colors

100, White	431, Medium Green
331, Red	462, Dark Green
432, Turquoise	531, Yellow

All prices subject to change without notice.

Dawbarn Brothers, Incorporated

Effective July 1, 1961

Polyethylene and Polypropylene Rope Filament
(FOR CANADA SEE CANADIAN PRICE LIST)

Designation	Size	Price Per Pound Less Than One Pallet	1-119 Pallets	120-199 Pallets	200 Pallets And Over
DLP®61	3000/16	$1.16	$.81	$.80	$.79
DLP®61	182X66/20S	1.17	.82	.81	.80
DLP®60	3000/16	1.08	.73	.72	.71
DLP®60	182X66/20S	1.09	.74	.73	.72
DLP®21	3000/5/0	1.09	.74	.73	.72

DLP®61—Heat and UV Stabilized—Polypropylene
DLP®21—Heat and UV Stabilized—Polyethylene
DLP®60—Heat Stabilized Only—**Natural** (To be used as core yarn only)

Carton Weight		Average Pallet Weight
42	3000/16	500
40	3000/5	500
285	182X66/20S	570

Terms:
Net 30 days, F.O.B., Waynesboro, Virginia
Freight prepaid only on truckload shipments to shipping points East of the Mississippi River.
All less truckloads shipments freight collect.
Orange and Red material ..... Add $.03 Per Pound.
Order Acceptances:
All orders are subject to acceptance at the Home Office in Waynesboro, Va.
Orders of less than one pallet of a single size and color are considered for Sample and Development purposes only, and we reserve the right to refuse orders except for these purposes.
Orders must be completed within 90 days from first shipment.
Minimum of three weeks required for items not in inventory.

Standard Colors

Polypropylene		Polyethylene	
DLP®61-104, White	DLP®61-412, Green	110, White	410, Green
DLP®61-237, Blue	DLP®61-506, Yellow	245, Blue	511, Yellow
DLP®61-318, Red	DLP®61-701, Black	340, Red	701, Black
DLP®61-319, Orange	DLP®60-503, Natural		

Standard Colors and Sizes are cumulative on both Polypropylene and Polyethylene in full pallets only.
Above prices are subject to change without notice.

Dawbarn Brothers, Incorporated

Effective June 1, 1961

Polypropylene Monofilament Price List
(Standard Colors*)

Designation	Price Per Pound Avg. Yield Yds. per Lb.	Less Than One Pallet	One Pallet And Over
DLP®51, 375/1/0	11,900	$1.25	$.90
DLP®57, 270FX24/0	16,500 per end	1.28	.93

Colors:
There are 17 Standard Colors listed on separate sheet.
*Red, Maroon ..... Add $.03 per pound.
Terms:
Net 30 days, F.O.B., Waynesboro, Virginia.
Freight collect on all less truckload shipments.
Freight prepaid on truckload shipments (40 pallets minimum).
Order Acceptances:
All orders are subject to acceptance at the Home Office in Waynesboro, Virginia.
Orders of less than one pallet of a single size and color are considered for Sample and Development purposes only, and we reserve the right to refuse orders except for these purposes.
All prices subject to change without notice.

Dawbarn Brothers, Incorporated

Waynesboro, Virginia

DLP®3 Polyethylene Ribbon Price List

Designation	Avg. Yield Yds. per lb.	Price Per Pound Less Than One Pallet	One Pallet And Over
DLP®3, 1500R/1/0	2,980	$1.17	$.82
DLP®3, 850R/1/0	5,250	1.21	.86

Carton Weight		Avg. Pallet Weight
31#	1500R	500#
35#	850R	550#

Terms:
Net 30 Days, F.O.B., Waynesboro, Virginia.
Truckload Shipments (Minimum 40 Pallets) Freight Prepaid.
Less Truckload Shipments—Freight Collect.
Red Yarn ..... Add $.03 Per Pound
Order Acceptances:
All orders are subject to acceptance at the Home Office in Waynesboro, Virginia.
Orders of less than one pallet of a single size and color are considered for Sample and Development purposes only, and we reserve the right to refuse orders except for these purposes.
All prices subject to change without notice.

POLYESTER

Beaunit Mills Inc.

Current Prices Vycron Semi-Dul Polyester

	Denier	Price Per Lb.
Staple	1.5	$1.00
Staple	3.0	1.00
Staple Cuts are 1⅛" to 6".		
Tow for Converters	1.5	1.00
(Tow Bundle 200,000 Denier)	3.0	1.00

Spun Dyed Black 15¢ per lb. extra.
"Terms: Net 30 days, F.O.B. shipping point. Minimum freight allowed within the continental limits of the United States, excluding Alaska. Goods after shipment shall be a buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold F.O.B. delivery point. Prices are subject to change without notice."

E. I. du Pont de Nemours & Co.

Textile Fibers Dept. Current Prices

"Dacron"** Staple and Tow

Denier	Luster	Type*	Length	Tow Bundle	1st Gr.
1.5	Semidull	35	1¼"-1½"	None made	$1.14
1.5	Semidull	54	1¼"-1½"	None made	1.14
1.5	Semidull	64	1¼"-3"	None made	1.24
2.25	Semidull	64	1¼"-4½"	450M	1.24
3.0	Semidull	54	1¼"-4½"	450M	1.24
3.0	Semidull	61	1¼"-4½"	None made	1.24
3.0	Semidull	64	1¼"-4½"	450M	1.24
4.0	Semidull	64	1¼"-4½"	450M	1.24
4.5	Semidull	54	1½"-4½"	450M	1.24
6.0	Semidull	54	1½"-4½"	450M	1.24
6.0	Semidull	61	1½"-4½"	None made	1.24
6.0	Semidull	64	1½"-4½"	450M	1.24

* Type:
Type 35—More Pill Resistant Staple for Cellulosic Bends.
Type 54—Semidull, Normal Tenacity.
Type 61—Industrial Staple having 45% Shrinkage. Not intended for Dyeable Uses.
Type 64—More Pill Resistant Staple, with Greater Dyeing Versatility.

"Dacron" Polyester Color-Sealed Black Staple and Tow

2.25	Color Sealed Black	64	1½"-4½"	450M	1.44
3.0	Color Sealed Black	64	1½"-4½"	450M	1.44

F. O. B. Shipping Point—Freight prepaid our route within the continental limits of the United States, excluding Alaska.
** Dupont's Registered Trade-mark for its Polyester Fiber.

Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Current

"Kodel"

Denier	HM	Types Semi-Dull I	II	S (Black Only)
1.5 staple only	$1.14	$1.14	$1.14	....
2.25 staple and tow	....	....	1.24	$1.44
3.0 "	....	....	1.24	1.44
4.5 "	....	....	1.24	1.44
6.0 "	....	....	1.24	....
8.0 "	....	....	1.24	....

Terms: Net 30 days. Payment—U. S. A. dollars.
Transportation charges prepaid or allowed to destination in continental United States, except Alaska. Seller reserves right to select route and method of shipment. If buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.
* "Kodel" is a trade-mark of the Eastman Kodak Company.

Celanese Fibers Company

Current Prices Effective April 14, 1961

*Fortrel Polyester Staple and Tow

Staple

Denier	Luster	Price
1.5	Semi-dull	$1.14
3	Semi-dull	1.24
4.5	Semi-dull	1.24
6	Semi-dull	1.24

Staple lengths 1½", 2" and 3".
All staple packaged in 500 pound bales.

Tow

Denier	Luster	Price
3	Semi-dull	$1.24
4.5	Semi-dull	1.24
6	Semi-dull	1.24

Total denier of all tow is 225,000.
All tow packaged in 300 to 400 pound cartons.
TERMS: Net 30 days. F.O.B. destination—Freight prepaid our route within the continental limits of the United States, excluding Alaska. Prices subject to change without notice.
* Registered Trademark of Fiber Industries Inc.

VINYON

American Viscose Corp.

Effective October 1, 1956

Avisco Vinyon Staple

1.5 denier 1½" Unopened	$.90 per lb.
3.0 denier 1½" Unopened	.80 per lb.
3.0 denier 1¼" Unopened	.80 per lb.
3.0 denier 1¼" Opened	.90 per lb.
3.0 denier 2" Opened	.90 per lb.
5.5 denier 1" Opened	.90 per lb.
5.5 denier 1½" Unopened	.80 per lb.

Terms: Net 30 days.

SARAN

The National Plastics Products Company—Fibers Division Odenton, Maryland

Current Prices:

Saran Staple

Type	Denier	Natural	Colors
2Y—Upholstery	22	$0.70	$0.75
2Y—Upholstery	16	.74	.79
3Q—Industrial Fabrics	22	.68	.72
1C—Carpets	22	.68	.72
1M—Mops	22	.68	.72

In any staple length 1¼ to 6". Also 45 denier, 7" cut.
F.O.B. Odenton, Maryland.
Terms: net 30 days.

GLASS YARN

Owens Corning Fiberglas Corp.

A Decorative Continuous Yarn

DE 150 1/0 1.0 TPI ..... 53¢ per lb.
F.O.B. Freight Allowed.

NO YARN TRAPPING WITH BRAZED ALUMINUM TWO POUND TAKE-UP BOBBIN

New aluminum take-up bobbin with barrel and heads brazed together into a single unit prevents yarn trapping. Exceptional strength at price no higher than ordinary bobbins.

Write us today for full details.

BW MACK **ALLENTOWN BOBBIN WORKS, INC.**

ALLENTOWN PENNSYLVANIA

Business Service Section

Exclusively for Business, Laboratory and Mill Services; Positions and Men Wanted; Business Opportunities; Mill Properties Wanted or For Sale; Reconditioned Machinery and Equipment, etc.

CLASSIFIED RATES
Per Inch
2 columns to the page, each column 8 inches deep

1 Inch	$8.00
2 Inches	15.00
3 Inches	22.50
4 Inches	28.00
5 Inches	35.00
6 Inches	42.00
7 Inches	49.00
8 Inches	52.00

WANTED

Experienced Superintendent. Capable of taking complete charge of Jacquard and Shaft Weaving mill on Synthetic and cotton yarn, located in Pa. Address reply to

State experience, age and references

Box #868, Modern Textiles Magazine
303 5th Ave. New York 16, N. Y.

NARROW FABRICS

Man with general manager, production manager and plant superintendent experience manufacturing Ribbons, Tapes, Elastics and Novelties using all Synthetic and Natural fibres would be interested in a new challenging opportunity.

Reply to: Box 867
Modern Textiles Magazine
303 Fifth Ave., New York 16, N. Y.

We require

MECHANICAL AND CHEMICAL ENGINEERS
and
DRAUGHTSMEN

with experience in the designing and establishment of plants and machinery for ACETATE, VISCOSE or SYNTHETIC FILAMENTS FIBRES and FILMS. Possibility of employment in Switzerland or other foreign countries.

Please apply to: **ING. A. MAURER S. A.**
Dammweg 3,
Berne, Switzerland

AVAILABLE

TECHNICAL GUIDANCE by MARTIN H. GURLEY, Jr.
in Development and Use of
Fibers and Fibrous Materials

R.F.D.-4 **Martin H. Gurley, Jr.** **Lexington, Va.** **COngress 1-3294**

WANTED

For Polyester Fiber Plant

Experienced Engineers and Chemists.
Annual salary: Juniors $12,000 to $15,000 and Seniors: $15,000 to $20,000.
Must be willing to relocate.

BOX 852, MODERN TEXTILES MAGAZINE
303 5th. Ave., New York 16, N. Y.

TEXTILE DEVELOPMENT SPECIALISTS

A major producer of synthetic fibers has openings for two textile graduates with minimums of five years experience.

One opening will require a thorough knowledge of all phases of textile processing from fibers or yarn to woven fabrics, including fabric design and development.

The other position will require a similar background as it relates to tufting technology.

These positions will involve technical support to sales personnel in marketing products for weaving and tufting. Will contact customers on processing techniques, fabric design and product development.

Good location near Asheville, N. C. Excellent benefits; five-day work week; moving expenses. Send complete resume, including salary requirements, to Employment Manager, Enka, N. C.

AMERICAN ENKA CORPORATION
Manufacturers of Rayon and Nylon

DACRON, NYLON, RAYON & ACETATE BOUGHT AND SOLD

YARNS

BERTNER YARN COMPANY
Empire State Bldg. **New York City**
Oxford 5-1170

WANTED

For Man-Made Fiber Industry

SENIOR ENGINEER

To supervise activities of drafting office, experienced in machine design in cellulosic and/or synthetic fiber field. Salary $15,000 and up depending on experience.

BOX 851, MODERN TEXTILES MAGAZINE
303 Fifth Ave., New York 16, N. Y.

Calendar of Coming Events

Sep. 6—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Sep. 7-8—Combed Yarn Spinners Association annual meeting. The Greenbrier, White Sulphur Springs, W. Va.
Sep. 11-15—Instrument Society of America, Instrument-Automation conference and exhibit. Sports Arena, Los Angeles, Calif.
Sep. 12-14—Southeastern Maintenance & Engineering Show and Seminar. Greensboro, N. C.
Sep. 14-15—Am. Gas Assoc. textile processing symposium. Clemson House, Clemson, S. C.
Sep. 14-15—Northern Textile Association annual meeting. Poland Spring, Me.
Sep. 19—Elastic Fabric Manufacturers Inst. Inc. The American Power Net Association. New York, N. Y.
Sep. 21-22—Carded Yarn Association, annual convention. The Cloister, Sea Island, Ga.
Sep. 21-22—Southern Textile Methods & Standards Association. Clemson House, Clemson, S. C.
Sep. 21-22—Chattanooga Yarn Association outing. Read House, Chattanooga, Tenn.
Sept. 27-29—AATCC National Convention, Hotel Statler, Buffalo, N. Y.
Sep. 27-30—"Index '61" 3rd Virginia biennial state-wide industrial exposition. Roanoke, Va.
Oct. 4—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Oct. 5-6—North Carolina Textile Manufacturers Assoc. annual meeting. Carolina Hotel, Pinehurst, N. C.
Oct. 5-6—Textile Quality Control Assoc. Sedgefield Inn, Greensboro, N. C.
Oct. 7—Alabama Textile Operating Executives, fall meeting. Thach Auditorium, Auburn, Ala.
Oct. 11-13—Quartermaster Association national convention. Biltmore Hotel, Atlanta, Ga.
Oct. 11-13—Fiber Society meeting. West Point, N. Y.
Oct. 11-21—International Knitting Machinery Exhibition. Belle Vue Hall, Manchester, England.
Oct. 14—South Carolina Div. STA. Clemson, S. C.
Oct. 14—Textile Operating Executives of Georgia. Georgia Tech, Atlanta, Ga.
Oct. 26—Textile Salesmen Association annual fall luncheon. Statler Hilton Hotel, New York, N. Y.
Nov. 1—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.
Nov. 1-2—ASME Textile Engineering Div. annual meeting. Massachusetts Inst. of Technology, Cambridge, Mass.
Nov. 8-9—Chemical Finishing Conference. Sheraton Park Hotel, Washington, D. C.
Nov. 9—Thread Institute annual meeting. Hotel Commodore, New York, N. Y.
Nov. 13-15—Narrow Fabrics Institute, Inc. meeting. Statler-Hilton, New York, N. Y.
Dec. 6—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.

1962
Jan. 3—AATT monthly meeting. Della Robbia Room, Hotel Vanderbilt, New York, N. Y.

Index to Advertisers

(See previous or subsequent issues)

Allen Beam Co.
Allen Warper Co.
Allentown Bobbin Works, Inc. 110
Allied Chemical Corp.
National Aniline Div. 18, 23
Althouse Chemical Co.
American Bemberg
American Cyanamid Co. 69
American Enka Corp. 67
American Lava Corp IV Cover
American Viscose Corp. 68
Apex Chemical Co., Inc. 15
Arkansas Co., Inc. 33
Atlantic Yarn Corp. 103
Atlas Electric Devices Co.

Barber-Colman Co.
Beaunit Mills, Inc. 71
Borregaard Co., Inc. The 107
Butterworth & Sons Co., H. W.

Celanese Corp. of America
Fibers Div. 66
Ciba Company, Inc.
Chemstrand Corp.
Chemtex Inc. 96
Cocker Machine & Foundry Co.
Collins Supply & Equipment Co.
Corn Products Sales Co.
Courtaulds (Alabama), Inc.
Crompton & Knowles Corp. 39
Curlator Corp. 11

Dary Ring Traveler Co.
Davison Publishing Co.
Dobson & Barlow, Ltd. 8
Dommerich & Co., Inc., L. F.
Draper Corp. II Cover
Du Pont de Nemours & Co., E. I.
Dyestuffs Department
Textile Fiber Department

Eastman Chem. Pro. Inc. 72
Edgewater Machine Co. 45
Emkay Chemical Co. 107
Englehard Industries, Inc.
Baker Platinum Div. 28
Enjay Chemical Co. 46, 47

Fabrionics Corp.
Fiske Bros. Refining Co.
Lubriplate Division
Fletcher Industries 93
Foster Machine Co. 7
Electronic Sales Div.
Franklin Process Co.

Gaston County Dyeing Machine Co.
General Foam Corp. 48
Globe Dye Works Co. 95
Goodyear Tire & Rubber Co.
Chemical Div.
Gulf States Utilities Co.

Hart Products Corp.
Heany Industrial Ceramic Corp. 42, 43
Heresite & Chemical Co.
Herr Mfg. Co., Inc. 9
Hoffner Rayon Co.
Howard Bros.

Industrial Rayon Corp. 65
Iselin-Jefferson Financial Co. Inc.

Kenyon-Piece Dyeworks, Inc. 34

Lambertville Ceramic & Mfg. Co. 107
Laurel Soap Mfg. Co. 101
Leatex Chemical Co.
Leesona Corporation 24
Lindly & Co., Inc., (See Foster Machine Co.)
Lohrke Textiles, Inc. 14
Loper Company, Ralph E.
Lubriplate Division
Fiske Bros. Refining Co.

Madden's Textile Ceramics, Inc.
Maguire & Co., John P.
Malina Company 103
Manivet S. A.
McBride Co., Inc., E. J.
McCandless Corp.
Milton Machine Works, Inc.
Mitchell-Bissell Co. 37

National Drying Machinery Co. 29
National Starch & Chem Corp.
Nopco Chemical Co. 31

Onyx Chemical Corp. 99

Perkins & Son, Inc., B. F.
Polymer Industries Inc. 70
Proctor & Schwartz, Inc.
Putnam Chemical Corp.

Reiner, Inc., Robert
Reliable Sample Card Co., Inc 6
Riordon Sales Corp., Ltd. 16
Roberts Company 5
Rusch & Co.

Saco-Lowell Shops
Sargent's Sons Corp., C. G.
Scholler Bros.
Scott & Williams, Inc. 41
Scott Testers, Inc.
Simco Co., Inc. 6
Sonoco Products Co. 3
Southern Shuttle Div., 25
Steel Heddle Mfg. Co.
Standard Chemical Products, Inc.
Stanford Engineering Co. 107
Steel Heddle Mfg. Co. 25

Talcott, James, Inc. 99
Taylor-Stiles & Co.
Tennessee Corp.
Terrell Machine Co. 26, 27
Textile Machine Works
Tompkins Bros. Co. 44
Traphagen School of Fashion
Turbo Machine Co. 10, 13

Union Carbide Chem Co.
Div. Union Carbide Corp.
Textile Fibers Dept.
U.S. Textile Machine Co.

Von Kohorn International Corp.

Walton & Lonsbury 94
West Point Foundry & Mach. Co. 12
Whitin Machine Works 17
Whitinsville Spinning Ring Co. 101

BUSINESS SERVICE

Bertner Yarns Co. 111
Gurley, Jr., Martin H. 111
Inq. A. Maurer S. A. 111
American Enka Corp. 111

DURAble BEAUty

The Rheims Cathedral

Fiber and construction play important roles in determining the comparative desirability of textiles. But, in the ultimate market-place, where hard, competitive selling makes the final decision, the finish is becoming increasingly appreciated as the influencing factor that finally sways the customer!

That's why DURA BEAU is fast gaining its rightful position as America's No. 1 fabric finish! If you would like to know more about DURA BEAU as an unexcelled finish as well as a distinguished trade mark—write . . . . .

Dura Beau® IS A TRADEMARK OF SCHOLLER BROTHERS

Scholler PIONEERS IN THE BETTER FINISHES THAT MAKE THE BETTER FABRICS...SINCE 1907

Manufacturers of Textile Finishes, Resins, Softeners, Detergents, Soaps, Oils and Specialties

SCHOLLER BROTHERS, Inc., Collins & Westmoreland Streets, Philadelphia 34, Pa. IN CANADA: Scholler Brothers, Ltd., St. Catherines, Ontario

ALSIMAG® 193

ELECTRICALLY CONDUCTIVE THREAD GUIDES

(U. S. Patent No. 2,369,266)

Parts shown approximately actual size.

These hard, homogeneous guides are recommended by leading producers of synthetic yarns and by leading manufacturers of textile machinery. They help control static electricity and produce better quality yarn. Stock designs available for most equipment. Custom made at reasonable cost for special requirements.

These conductive ceramic guides are available in either satin or bright finish. Rods and tubes can be supplied in controlled finishes in a normal range of 5 to 70 micro-inches r.m.s. Other special finishes can be supplied when required. Finish specification sheet sent on request.

Samples available on standard designs. Experimental designs made promptly and at reasonable cost. Send prints or description.

A Subsidiary of Minnesota Mining and Manufacturing Company

AMERICAN LAVA CORPORATION

CHATTANOOGA 5, TENN.

60TH YEAR OF CERAMIC LEADERSHIP

SALES ENGINEERS: NEW ENGLAND: W. J. Geary, 27 Fairlawn St., Cranston, R. I., Williams 1-4177. • NORTHEAST: J. S. Gosnell, 205 Walnut St., Livingston, N. J., WYman 2-1260. • SOUTHEAST: James W. Crisp, Route 4, Taylors, South Carolina, CHurchill 4-0063. • ALL OTHER AREAS: J. B. Shacklett, J. E. Hicks, or W. H. Cooper, American Lava Corporation, Chattanooga 5, Tenn., AM 5-3411. • **REPRESENTATIVES:** CANADA: Ian M. Haldane & Co., P. O. Box 54, London, Ont. ALL OTHER COUNTRIES: Minnesota Mining and Manufacturing Co., International Division, 99 Park Ave., New York, N. Y.